THE physical therapy REVIEW

Second Congress
World Confederation for Physical Therapy
Hotel Statler, New York City
June 17 - 23, 1956

The Place of Low Volt Currents in Hydrotherapy: Hydrogalvanism and Allied Currents — COVALT and GRIFFIN

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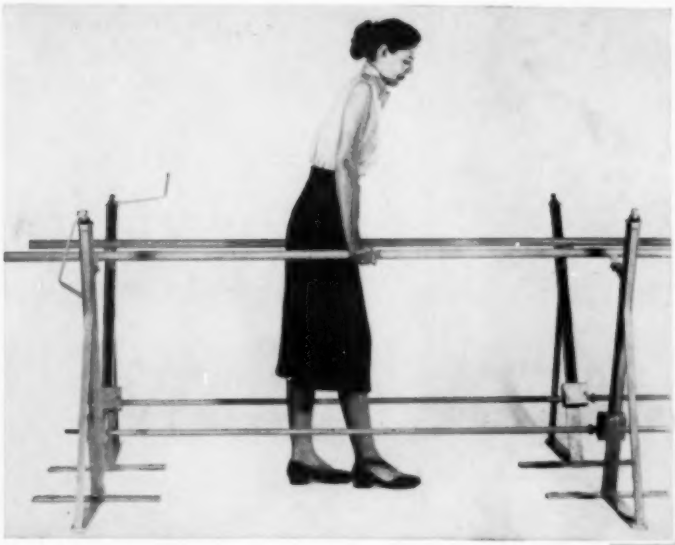

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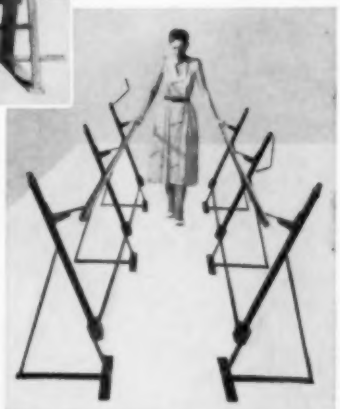

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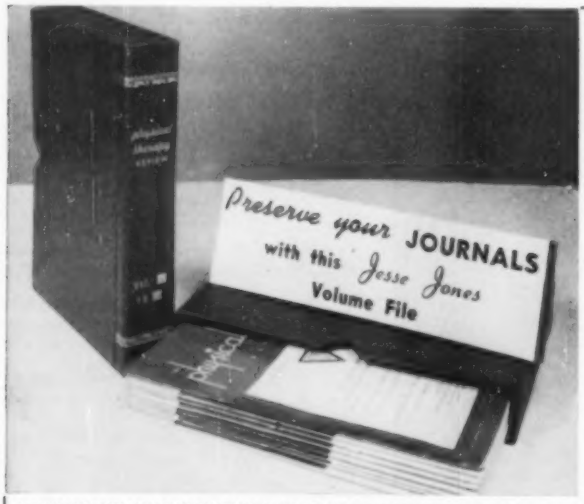

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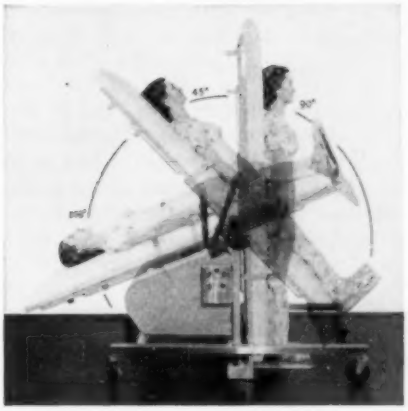

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On the left there is a portrait of Elmer Hess, M.D., president of the American Medical Association; a fine and great man who I am privileged to have as a personal friend. Here, too, is a daily reminder through the pleasant face of an esteemed friend and leader in medicine, of my debt and responsibility to this body of wonderful, dedicated scientific men and women.

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There are many yet who are skeptical about the value of Ultrasonic energy. This is healthy, as it should be, but 13,500 physicians in the United States employing Ultrasonic energy in daily practice as the therapy of choice for a wide variety of diseases can hardly all be wrong. This should encourage the intelligent skeptic to investigate before he castigates.

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The Physical Therapy Review

Official Publication of The American Physical Therapy Association

Vol. 36 February 1956 Number 2

The Place of Low Volt Currents in Hydrotherapy

Hydrogalvanism and Allied Currents*

Nila Kirkpatrick Covalt, M.D., and James E. Griffin, M.A.

Introduction

Hydrogalvanism is an efficient method of administering low volt therapy in many instances, particularly when two direct currents or a direct and alternating current can be given simultaneously. The full tub bath offers a systemic treatment while the 4 cell bath is an enlarged local treatment which offers greater ease of application than pads. The present report is concerned only with the full tub bath.

The full tub enhances the application of low volt therapy, increases the amount of body surface that can be treated at one time, and eliminates the danger of negative pole burns. The value of these treatments may be attributed to various forms of low volt therapy rather than hydrotherapy. The water serves primarily as a media of transmission just as mineral oil is used in the application of utrasound.

The majority of clinical and research reports are from Germany, France and Russia. Kovacs, Zankel, Behrend, Rudd and Bierman are among the few American contributors to this subject. Few statistical studies have been reported, or else the scientific conclusions have been stated without detailed proof. The most comprehensive report available was made in 1932 by Dr. Wilhelm H. Wedekind of the University of Munich. He stated definite conclusions regarding the human body as a conductor of galvanic current, the physical-chemical effects, and physiological effects.

Skeptics are wont to say that the current does not penetrate the body, that the treatment results are entirely psychic, and a tepid tub bath would be as effective. Anyone who subjects himself to a galvanic full tub bath will immediately have no doubt as to the penetration of the current. This report suggests actual proof of current penetration as well as refuting the comparison to a tepid bath. Psychological factors enter into any form of therapy.

We have used hydrogalvanism as a treatment modality for more than four years. The American machine we used has two circuits and two separate control meters and is the only machine having both a volt meter and ammeter. Figure 1 is a photograph showing the position of the electrodes in the full tub bath. Voltage and amperage was recorded for each current with every treatment. Water and body temperatures were recorded by the physical therapists before and after treatment. The pH of the saliva was recorded before and after some treatments but too sporadically to be quoted here.

Clinical studies included use of combined longitudinal and transverse direct currents for the relief of pain, particularly in patients with arthritis and poliomyelitis; and the use of longitudinal tetanizing currents overlaid with transverse surging wave currents in an attempt to

* Read in part at the Annual Meeting of the American Congress of Physical Medicine, New York, 1952.

Nila Kirkpatrick Covalt, M.D., Physiatrist, Winter Park, Florida; James E. Griffin, Associate in Physical Therapy, University of Pennsylvania, Philadelphia.

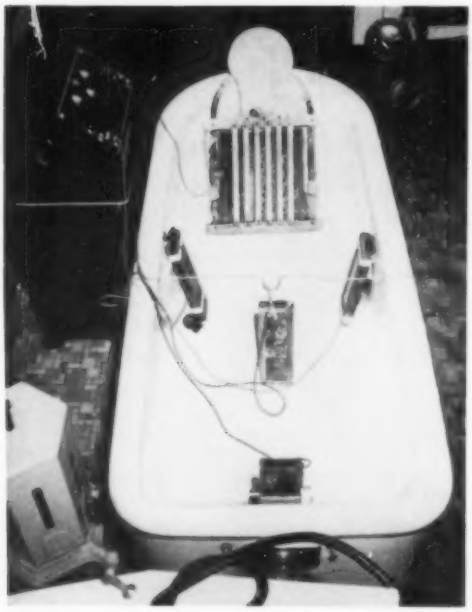

Figure 1. The full tub bath showing the positions of the electrodes.

relieve spasm or rigidity in spastic paraplegia, multiple sclerosis, and parkinsonism.

Instead of reporting on results of individual patients, we elected to classify patients as to pathological entity and to record the patient's response to treatment. There were 5 patient groups. All patients received a minimum of 25 treatments. Body and water temperatures, voltage and amperage, and calculated milliwattage were averaged for the patients in each group for each of the first 25 treatments. Total patient statistics have been averaged and observations have been charted graphically.

All treatments in the series were of 20 minutes duration. The initial water temperature varied according to the comfort of the patient. A 0.6 per cent tannic acid solution was used in the water and its use was continued if the skin did not become irritated from the current. If irritation developed, a colloidal sulphur solution was used. Certain patients did not tolerate either; a dermatitis developed and the treatment was discontinued temporarily or in certain cases permanently. It was necessary to use colloidal sulphur instead of tannic acid almost routinely for the last 5 to 10 treatments. The use of colloidal sulphur probably affected some change in skin resistance but since there were no marked varia-

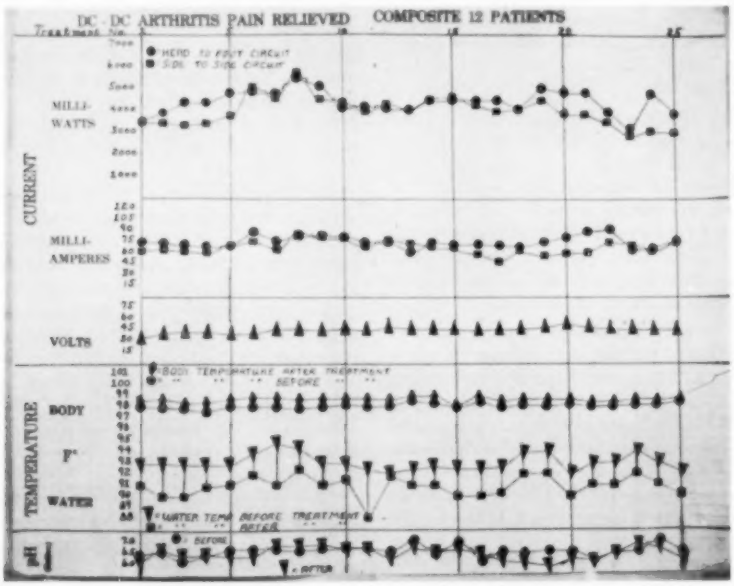

Figure 2. Improved group of arthritis patients

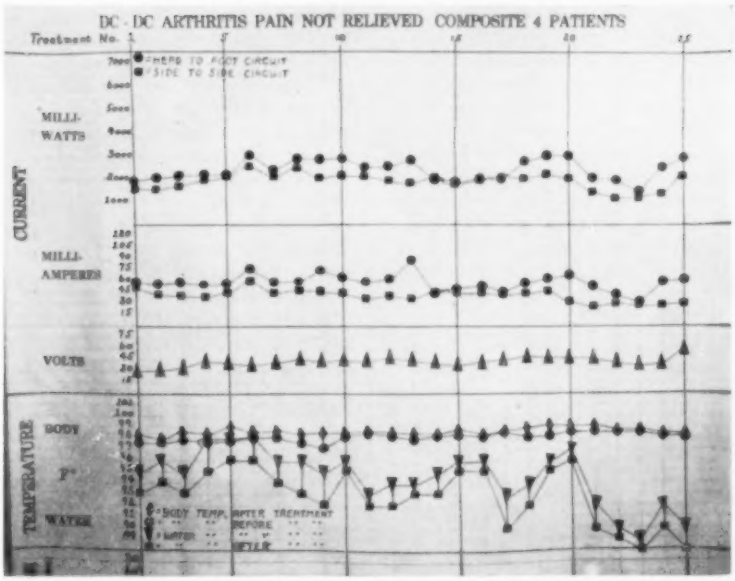

Figure 3. Unimproved group of arthritis patients

tions in the statistics, nor was it demonstrated in the graphs, this factor has been ignored.

In some instances, increase in range of joint motion were recorded. Relief of spasm was objectively measured by the patient's ability to carry out activities of daily living. The patients were questioned each time as to subjective relief from pain, spasm, or rigidity, and the duration of the relief.

RESULTS

A. Arthritis

Figure 2 is a composite graph of information obtained from 12 arthritic patients who received combined direct currents. The patients had subjective relief of pain, with measured increase in range of joint motion in many cases. In the 20 minute treatments, polarity was always reversed after 10 minutes.

The milliamperage in the transverse circuit (side to side) averaged around 60 in the earlier treatments but appeared to rise to between 65 to 70 in the later treatments. The milliamperage in the longitudinal circuit (head to foot) currents appeared to be more consistently around 75, with occasional spurts upward. The voltage was fairly level between 35 and 45.

The calculated milliwattage in the longitudinal circuit started around 3500, peaked from 4000 to 5000 after the first 5 treatments and appeared to drop to the original level in the last 5 treatments. The milliwattage in the transverse circuit was lower in the first and last 5 treatments but was approximately the same as the longitudinal circuit during the middle 15 treatments. Initial water temperature varied from day to day according to individual tolerance. The average initial water temperature was between 93° to 94° F. The water temperature after treatment was consistently lower. The average fall in water temperature in the series of 25 treatments was 1.51° F.

We arbitrarily ruled that no patient in any disease category should receive treatment if his body temperature was 99° F. or above. Hence the average initial body temperature was always 99° F. or less. In every instance there was a rise in body temperature averaging .4 to .6° F., rising to 99° F. or slightly above.

This entire group had pH tests of saliva. There was a consistent shift toward the alkaline side.

Figure 3 shows that in comparison only 4 arthritic patients who were unimproved had a total of 25 treatments. These patients tolerated the same voltage but the milliamperage in the

transverse circuit rather consistently averaged 45, and in the longitudinal circuit the average was 60 or below (in those who improved it was 60 and 75). The calculated milliwattage in the longitudinal and transverse circuits was almost equal. The average milliwattage in the longitudinal circuit was generally 3000 or below for each treatment. It was never above 2000 in the transverse circuit. Obviously, the arthritic patients who failed to improve were unable to tolerate as much current as those who improved. A beginning slight rise in current tolerance was suggested in the last 5 treatments. This probably is of little significance.

The unimproved patients definitely required higher initial water temperatures but their requirements for each treatment were erratic since those temperatures varied from '89 to 98° F. Water temperature fell in every instance ranging from 0.5° to 3° F. with an average fall of 2.78° F. Initial body temperature was oftentimes below 98.6°, even as low as 97° F., but there was a consistent rise to .2 of 8° F.

Thus, required initial water temperatures were higher for the unimproved patients but dropped more during treatment. (The average fall in the improved group was 1.51° in comparison.) The rise in body temperature was consistent and about the same in both groups. (Only one patient in this group had received cortisone, with no apparent relief from pain.)

Clinically, and by laboratory reports, both groups of patients presented various degrees of arthritic involvement. All had pain; the majority had severe limitation of motion in multiple joints. In the group which improved, x-ray studies revealed evidence of rheumatoid arthritis in 8 patients and osteoarthritis in 4 patients. In the unimproved group, x-ray studies revealed evidence of rheumatoid arthritis in 2 patients and osteoarthritis in 2 patients.

While a series of 16 patients is too small a group from which to draw conclusions, we feel that there must be significance in these rather clean cut variations. The observations that the unimproved patients tolerated so much less current, had a tendency to more subnormal body temperatures (even though their rise in body temperatures was about the same), and a greater fall in water temperature, must definitely be evidence of the interlinking of physiologic and physical-chemical effects of which Wedekind has observed.

> Wedekind states that, "The physiology and the physical chemical effects are interlinked. A primary effect of the passage of current is heat radiation. A major cause of radiation is skin irritation and through this stimulation of central peripheral and

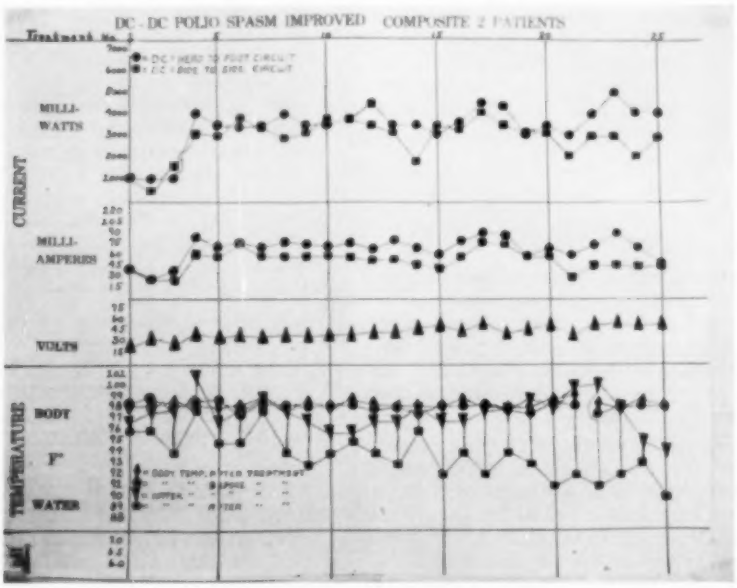

Figure 4. Poliomyelitis patients

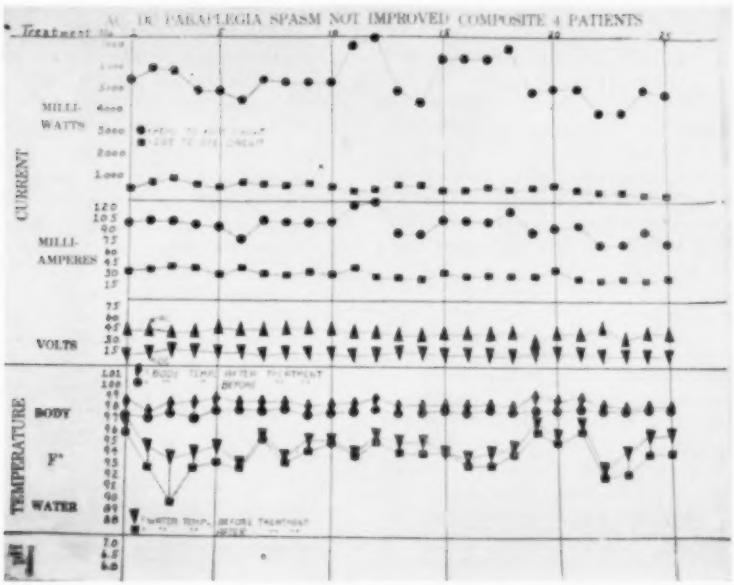

Figure 5. Traumatic paraplegia patients

autonomic nervous system creating as much as a 6 degree centigrade rise in body temperature."

Wedekind concludes that the rate of ionization is highly variable (the H ion is best). It is inversely proportional to the voltage. The lower the voltage, the higher the concentration. The current causes chemical change in passing because of polarization and because of ion flow differential. The passing of the current makes new "compounds" within the body.

Wedekind states: "High resistance becomes apparent; when hydrogalvanic current is used, counter currents are set up which cancel out the EMF of passing current. From this the current strength is lowered and body resistance becomes relatively higher. The appearance of EMF in counter current conduction is polarization. The strength of current drops after the start of current flow because of polarization of the electrodes. Polarization in animal tissue was first demonstrated in 1834. For an actual measure of resistance one must compute resistance plus polarization. The voltage amperage relation within the body differs from Ohm's Law because of body chemical changes especially with the duration of current flow."

B. Post-Poliomyelitis

During the past four years 10 patients have been transferred to our hospital as post-poliomyelitis patients. Eight came directly from designated poliomyelitis isolation centers 3 weeks to 6 months after onset. Five had marked spasm and tightness on arrival even though each had received packs or the Hubbard tank. We had been using saturated moist air with good results when we decided to compare that method of treatment with the overlay direct currents. Only two patients received 25 treatments. Each patient had more than two extremities involved. The spasm and tightness were relieved in these two patients as rapidly or more rapidly than in the patients who had moist air.

The pattern is not dissimilar from that of the improved group of arthritics except that the transverse current does not parallel the longitudinal current as steadily as in the arthritic group. The poliomyelitis patients generally required higher initial water temperatures, but the fall in water temperature was greater and showed wider variations. The average temperature fall for the 2 patients was 3.74° F. with (4) individual temperature falls of 6, 8.5 and 9° F.

C. Paraplegia

Spastic paraplegics have been relieved of spasm by a tetanizing current being "overlaid" by a sinusoidal current as reported by Walter J. Lee and others. Since most paraplegic spasms are commonly bilateral and spasm is usually present in the abdominal muscles, it seemed reasonable that a full tub bath should give equal or even better relief. However, of 10 spastic paraplegics, none had relief of spasm in the full tub bath.

(Figure 5.) Four patients received a minimum of 25 treatments as shown in the graph. The direct current was used longitudinally; the alternating current (60 cycle) transversely.

The voltage of the DC was quite low at around 15, the AC only 45. The amperage and milliwattage on the AC were definitely lower than on the DC-DC graphs while the DC amperage and milliwattage were decidedly higher than on the DC-DC graphs, with milliamperage consistently above 100. Milliwattage was generally over 5000, going as high as 7000.

D. Multiple Sclerosis

Figure 6 is a graph of results on 3 patients with multiple sclerosis who improved in coordination and lessening of spasm. This was objectively verified by ability to perform or improve in performance of daily activities after each treatment, or after several treatments. Further proof was obtained when spasm increased while treatment was temporarily discontined because of skin irritation, or because of no apparent benefit to patients. Patients requested resumption of treatment after 1 to 2 weeks' rest, stating that stiffness had increased in the interim.

Again the AC voltage and amperage were at approximately the same low levels as with the paraplegics; the DC voltage, milliamps, and milliwattage were approximately at the same high levels as in the group of the paraplegics. The main differences in pattern were the wider variations and peaks in milliwattage.

Body temperatures rose about the same degree as in the other groups. The water temperatures fell, although not as much as with DC-DC, but more than during treatment of the spastic paraplegics. pH saliva studies were also done on this group and again show a shift toward the alkaline side.

Other multiple sclerosis patients had varying degrees of improvement when compared with the 3 patients who had over 25 treatments.

Similarly some patients with parkinsonism experienced less rigidity, while other felt no change. As in the arthritic group, there appears to be no criteria at the present time for selection of patients who will benefit.

CONCLUSIONS

In every instance, there was a consistent rise in body temperature of 0.2 to 0.8° F. for each patient. The water temperature fell consistently with varying degrees among the different groups. This pattern may be significant. If water temperatures had been, or could be, maintained at a constant level for 20 minutes, the body temperatures would have shown a greater elevation.* Two groups had pH tests on saliva. All showed a shift to the alkaline side at the end of each treatment. We are of the opinion that these facts demonstrate current penetration.

The inability of the unimproved arthritics to tolerate as much current as those who improved may be significant. It seems to us that the results are due to a shift of ions and not to the effects of heat. There is a change in the EMF (electromotive forces) of injured nerves. Similar changes may affect other tissues. Hence, in disease, the EMF may be so decreased in certain cells that they cannot be recharged or the charge reversed. The current may then be regarded as replacement therapy, with abrupt changes at the start of treatment and gradual changes continuing for several hours.

Wedekind has presented evidence that electrophoresis occurs in vivo, and Zankel has indicated some apparent chemical changes. The exact chemical changes and the amounts cannot be known without much more detailed research. Cortisone and ACTH have failed to solve all of the problems of the arthritic patient. Perhaps an additional clue can be found here.

The amount of current used is important. It is felt that current should be used to maximum tolerance. More studies should be made to determine exact amounts. When two currents are given together, more current can be given with greater comfort. Wakim † thought it might be possible that the sensation produced by one type of current reduces the sensation produced by the second type of current. Certainly use of two currents having different characteristics and with each current controlled separately, appears to be more effective than use of one current alone.

The relief of spasm by application of a tetanizing current or with the combined AC-DC current has no satisfactory scientific explanation. Our failure to obtain results with spastic paraplegias in the full tub bath is certainly not clear since we have achieved good results with the use of pads. The only interpretation we can offer is that the greater distribution of current over more body surface did not permit adequate concentration of current for this type of pathology. The paraplegias who evidenced no improve-

* Spot checks on healthy people in the department with initial water temperature of 76 to 100° F. have shown proportionately greater rise in body temperature.

† Kahil Wakim: Conversation in group discussion.

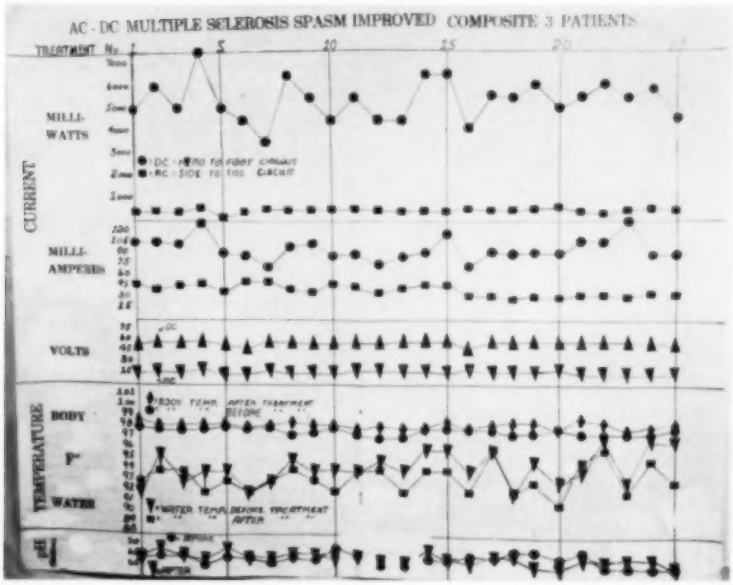

Figure 6. Multiple sclerosis patients

ment were all due to trauma. The multiple sclerosis patients who improved tolerated equally low currents. Disease processes versus trauma deserve further study.

SUMMARY

This is a clinical report of 25 patients treated by a series of 25 full tub hydrogalvanic baths. It is not intended to be an enthusiastic and dramatic report of results, even though, in general, good results were often attained. We have attempted to complete the actual statistics that were obtained clinically. Laboratory tests were available on only a small percentage of the patients treated.

We are not claiming that this method of administering low volt therapy is a panacea for all diseases and disabilities. Hydrogalvanism is, in our opinion, an efficient method of treatment when the various forms of direct and alternating current are indicated. Hydrogalvanism is an incomplete term, although not a misnomer. The use of hydrogalvanism offers the choice of two applications systemic or local, which adds to the armamentarium of the physiatrist.

It is hoped that these statistics will stimulate more detailed study in research centers. Blood chemistry, circulatory, and skin temperature studies would be of value. These are problems for the physicist, the biochemists and the physiologists.

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Segmental Breathing

Wilma-Nell Harmony, B.S.

"Segmental breathing" may be defined as localized respiration consciously directed to one segment of the chest while the other segments remain relaxed. The term 'segmental' is not to be confused in meaning with anatomical segments of the lobes or of the lungs. The lungs are the essential organs of respiration; they are two in number and are divided into five lobes, two on the left and three on the right which are further divided into segments. It is not these anatomical segments with which we are concerned, but rather with four segmental areas of the chest. (Figure 1) The purpose of this paper is to present a method of teaching patients how to breathe in specific areas of the chest, primarily in each of the five lobes of the lung. While it is not possible to completely divorce the breathing function of one lobe from the others, with concentration it appears to be possible to expand the chest in its respective segments. The enlargement of the chest in one segment at a time creates a greater area into which the remaining lobe or portion of a lobe can expand; from the nature of this action is derived the term, "segmental breathing."

Utilization of segmental breathing exercises accomplishes many objectives, the most important of which is to promote the expansion or reexpansion of an anatomical segment, lobe or lung in order that a pleural space, which may be a potential danger space or pocket for the accumulation of fluid, may be obliterated. Other objectives of breathing exercises include: (1) improved aëration and expansibility, thus reducing the possibility of atelectasis; (2) stimulation of the cough reflex mechanism, thus preventing excessive accumulation of secretions in the bronchial tree; (3) development of normal motion within an operated area with a concomitant decrease of paradoxical breathing (deflation of a lung or portion of a lung during the phase of inspiration and the inflation of the lung during the phase of expiration)*; and (4) prevention of panic response in the patient through development of a sense of confidence derived from a feeling of controlled breathing.

Segmental breathing is taught routinely to both tuberculous and nontuberculous patients who are being prepared for resective thoracic surgery. The instruction is initiated approximately two weeks prior to the scheduled surgical intervention. The procedure followed in teaching the patient this type of breathing is outlined in detail, with the greater emphasis on the technic of segmental breathing. A. Positioning: Since the upper lobes ventilate more completely when the patient is standing, and the lower lobes aërate more easily when the patient is supine, these positions are assumed for exercise of the respective segments. B. Steps of the Procedure: (1) Teach controlled diaphragmatic respiration (the intentional use of abdominal respiration—that which is chiefly kept up by the abdominal muscles and the diaphragm—for the purpose of limiting the motion of the apices of the lung in tuberculosis or to relieve pressure on the heart); (2) teach costal respiration (that which is performed mainly by the rib muscles); (3) teach vicarious respiration (increased action in one lung when that of the other lung is diminished); and finally (4) teach segmental breathing, which may be taught as follows:

1. The surface area of the chest, divided into four quarters, is graphically demonstrated to the patient; this divides the left and right upper chest and the left and right lower chest. (Figure 1) For the posterior basal segments of the lobes the posterior lower thoracic surface areas may be pointed out.

2. Place one hand over the area to be exercised and use the other hand to check the movement on the opposite side. (Figure 2)

3. Direct the patient to concentrate on expanding the chest or ribs in the direction required while the other side remains relaxed.

4. Instruct him to inhale slowly and quietly through the nose while concentrating upon channeling the air into the desired quarter

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* All definitions of terms used are from Dorland, W. A. Newman, American Illustrated Medical Dictionary 20th edition.

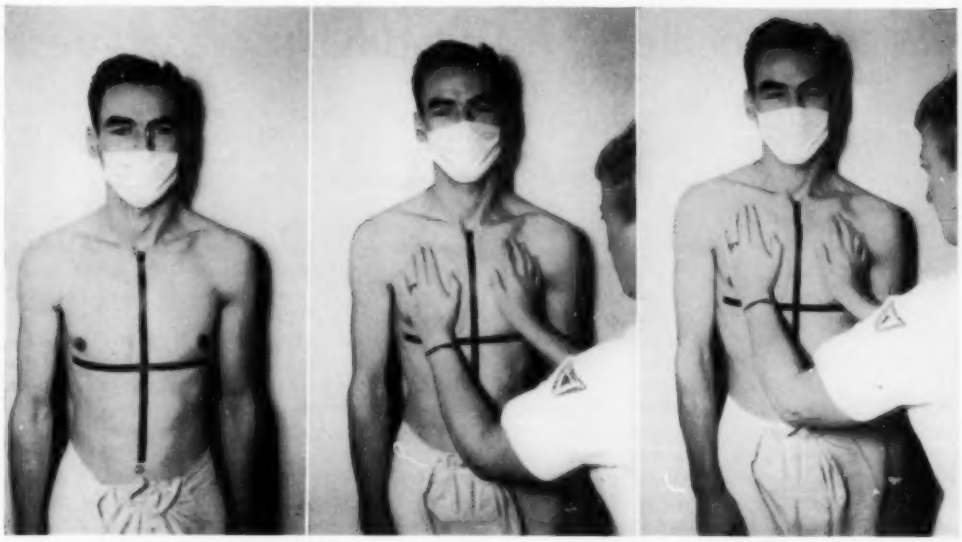

Figure 1 *Figure 2* *Figure 3*

Figure 1. Surface areas of chest
Figure 2. Placement of hands
Figure 3. Inhalation and expansion against pressure with concentration on the right upper lobe

by expanding the ribs against the pressure of the hand. (Figure 3)

5. Advise him to exhale completely each time.

6. Each exercise may be repeated in series of five breaths, resting momentarily between each series. The duration of the exercise routine should be adapted to the tolerance of the patient.

7. Hints for the physical therapist: (a) Learn the technic yourself. (b) Apply pressure carefully and evenly over the part to be exercised. (c) Release pressure at the height of expansion to allow the patient to inflate his lungs as fully as possible. (d) Never tire the patient. (e) Encourage the patient to develop a consciousness of muscle action. (f) Establish a specific time for treatment. Persistent practice and determination on the part of the patient, with conscious direction of effort, is necessary to perfect the skill of segmental breathing.

In conclusion, there is no scientific evidence that segmental breathing is ever effected. However, results from the described routine have been gratifying. From January 1, 1951 through December 31, 1954 segmental breathing was taught to a total of 131 patients who underwent resective surgery. This definitive surgery included 49 lobectomies, 17 segmental resections, 20 wedge resections, 19 decortications, and 26 various combinations of these procedures. As adjunctive therapy, when the lung did not appear to respond to segmental breathing, blow bottle technic as described by Wolff was used. In all cases x-ray evidence is available to show that the lung or lobe did expand or reexpand satisfactorily. It is not known to what degree the technic of segmental breathing alone or in combination with blow bottle breathing (pursed-lip) contributed to the accomplishment of these results. It is felt that segmental breathing exercises are a valuable procedure.

The Management of Attitudinal Contractures in Psychiatric Patients

Henry Stano, B.S., and Jack Meislin, M.D.

It is difficult to forget a scene which took place thirteen years ago but which is likely to occur at any time in a hospital for the mentally ill. Location: a large psychiatric hospital. Background: medical staff evaluation conference. A convalescent patient, who had been in severe schizophrenic-catatonic state for over a year but who is now sufficiently recovered, is being considered for discharge into the community. The scene presents a man of about fifty years of age pointing the deformed fingers of his right hand at the members of the staff and making the following statement replete with subdued hostility: "You gentlemen are responsible for depriving me of my livelihood."

If the opening statement of this presentation appears to be dramatic, the authors fully intend it to be. Among the difficult problems complicating the rehabilitation of the mentally ill, there is one which can be characterized as "tragic" because this complication is *preventable*. We refer to muscular contractures resulting from certain characteristic postures or attitudes assumed by the psychiatric patients called "attitudinal contractures." This condition occurs much more frequently than is suspected, and is often overlooked. The seriousness of this condition was suggested in the case cited above; however, the degree of severity this problem can attain is best exemplified by another patient seen by one of the authors early in his psychiatric career. The patient was a schizophrenic who imagined himself to be King Judah of Ethiopia. Extremely regressed, he had assumed a completely flexed position not unlike that of a fetus in utero. This patient developed severe contractures in flexion of the upper and lower extremities. He became completely helpless in the activities of daily living and had to be nursed as an infant. Whenever it was necessary to move any of his extremities he would scream with pain. It was not surprising that he died from fulminating tuberculosis, diagnosed only at autopsy because it was nearly impossible to do a satisfactory physical examination during life. Fortunately such cases are much less frequent in this day and age of "humane psychiatry." Yet, with rare exception*, the discussion of the problem of attitudinal contractures is not to be found in our orthopedic or physiatric literature, although psychiatric textbooks refer to it indirectly. Its significance is truly appreciated only in the physical medicine service of a psychiatric hospital. Perhaps the reason the problem does not have the same impact on the members of the nursing service of the psychiatric wards, is because the condition usually develops gradually. It is recognized as a special problem only when it eventually incapacitates the patient in his activities of daily living, and then the patient is referred to the physical therapy department.

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The Nature of the Condition

It has long been known that maintenance of a joint in a static position for an extended period of time will result in inability of the structures to function physiologically or to return to the normal, anatomic position. We speak of this as a *contracture*. Steindler classifies contractures as *myogenetic*, affecting muscles and tendons; *capsular and periarticular*, affecting the joints; and *dermogenetic*, resulting in changes in the skin and subcutaneous tissues. Attitudinal contractures described in this presentation are initially myogenetic. The muscles shorten and atrophy. Capsular and periarticular changes with adhesions are usually followed by atrophy and contracture of the skin. Occasionally the pathology is further complicated by the development of ankyloses. Even without ankylosis the pathological state described often becomes irreversible. Although it may be possible to regain more or less normal function, to do so requires a long and tedious period of vigorous therapy.

Because the flexor muscles are ordinarily more

* See reference 1.

Figure 1. A typical catatonic posture

powerful than the extensors, the most common type of contracture is flexion contracture which often is seen involving the knees and/or hips of chronic bed or wheel chair patients such as paralytics and arthritics. In mentally ill patients the predominant problem is flexion contractures in the hands.

Many regressed psychiatric patients, particularly of the catatonic and hebephrenic type, assume a stereotyped attitude. Frequently they develop a dull stupor with mutism, sitting or standing idly in one position with head bowed, or sitting on the floor in a generally flexed body configuration. One can speculate that such posture results from a wish to return to the protective environment of the womb. Often these patients keep their fists tightly clenched and open them only when absolutely necessary for such purposes as eating. For this reason it has been

Figure 2. Clinched fist position leading to attitudinal contractures

observed that the dominant hand is less frequently involved. However, in cases where the patient is allowed to depend upon others for nursing care and feeding a bilateral involvement occasionally develops.

SYMPTOMATOLOGY

When seen in the physical therapy clinic the patient usually presents a typical catatonic position (Figure 1) with the fists held tightly clenched to the body (Figure 2). A passive attempt to extend the fingers slightly usually meets with a great deal of resistance. Insistence of the physical therapist may provoke the patient to assaultive and even frenzied behavior sometimes accompanied by screaming due to pain. The patient's fingernails are dug into the palm of the hand. The skin of the palm and of the interdigital surfaces is invariably macerated, moist, and a foul odor is present. The range of motion is limited depending upon the severity of the condition. Even if the patient is willing to open his fist, it is impossible for him to do so completely because of the pain produced and the presence of structural alterations.

MANAGEMENT

Definitive Therapy

In physical therapy the initial approach is to evaluate the degree of the contracture. Range of motion is measured to the point of pain. The skin of the palmar and adjoining areas of the hand is treated with a thorough rinse of tincture

of green soap for purposes of cleaning and deodorizing the tissues. This procedure is mandatory if one is to preserve or improve the condition of the skin. We have found tincture of green soap to be most effective and economical.

Various therapeutic measures have been used to correct established contractures. Heat in its diverse forms, both convective and conversive, has been utilized as preparatory to active and passive stretching. Whirlpool also has been used extensively for this purpose. Nevertheless such procedures have proved to be of minimal value except in mild, incipient cases. One of the reasons for the failure of active and passive stretching is the inability to stretch adequately because of limitations imposed by pain and the risk of tearing muscles or ligaments.

With the advent of ultrasound as a part of the therapeutic armamentarium the prognosis of contractures has been considerably improved. Bierman has shown the efficacy of this treatment in relation to contractures of the Dupuytren's type, those due to scar tissue as a result of burns, and contractures due to adhesions. Several cases of attitudinal contractures responded well to ultrasound in combination with active and passive stretching, but ultrasound alone was of limited value. It seems that ultrasound contributes to the effectiveness of the treatment primarily because of its softening effect upon the tissues and concomitant increase in the pain threshold. This allows the patient to tolerate more extensive stretching with resultant gains in range of motion. The usual dosage is 1 to 1½ watts per sq. cm. under water for 5 to 7 minutes daily until maximum benefit has been achieved. It may be necessary to resort to the assistance of an aide to to keep the psychiatric patient's hand open as wide as possible while administering the treatment. Whirlpool may be used immediately prior to the application of ultrasound.

Stretching, which immediately follows, should be done firmly but gently for about 30 seconds to the point of pain with rest periods of the same duration, for a total time of approximately 10 minutes. Better cooperation on the part of the patient can be achieved by utilizing a passive bimanual hand-shaking exercise procedure in which one hand of the physical therapist is in a natural hand-shaking position while the other hand exerts pressure upon the dorsum of the patient's metacarpus. Actually, the "rest" period consists of a partial release of the pressure.

It is of interest to note that the patient seems to feel the procedure is of benefit to him, and usually develops a positive relationship with the physical therapist. Although the treatment causes severe pain, the patient seldom remonstrates against the physical therapist but, by displacement, may swear and kick an object or another person who happens to be within reach.

USE OF SPLINTING DEVICES

Ultrasound and stretching will not correct the contractures if the patient is allowed to revert to his clenched fist position. It is imperative to apply a device which will maintain the fingers in maximum extension. In some cases it is possible to use a splint as shown in (Figure 3). In order to avoid adhesive tape burns the skin is painted with tincture of benzoin and the knuckles are protected with sponge rubber. The splint is applied in the following manner; tongue depressors covered with adhesive tape are strapped to the dorsum of the patient's involved hand; the fingers are held in extension by means of tape strips secured to tongue depressors and extended to the palmar surface of the fingers and hand; and the strips are reinforced by circular tape rings around the middle phalanges. This splint should be removed every three hours for a rest period of one hour and reapplied. The patient may develop irritation of the skin due to pressure. If this occurs splinting should not be resumed until these areas are healed. At night a hand towel roll described below should be used instead of the splint.

In certain cases the splint cannot be utilized because of poor cooperation and resistance by the psychiatric patient. A substitute method has proved to be of almost equal effectiveness. Two hand towels are rolled firmly into a cylinder—one within the other. The circumference is of approximately 9 inches and the length 5 inches (Figure 4). The roll is placed in the palm of the hand and firmly applied with an Ace bandage. In severe contractures the roll may be limited initially to one towel. Although this "towel roll" is comparatively innocuous, it should be removed at least twice every 24 hours for purposes of mobilization and to prevent edema and stiffness which is likely to occur in any immobilized joint.

PREVENTION

Ultrasound therapy has made an important contribution to the correction of attitudinal contractures. Nevertheless, the problem remains a difficult one requiring a long tedious period of treatment with patients who are poor in cooperation and assaultive. The most effective

Figure 3. Tongue depressor splint

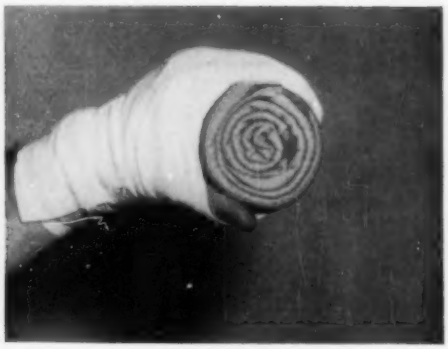

Figure 4. Maintenance of stretched position by hand towel roll

management is prevention. This requires vigilance on the part of the psychiatric nursing staff, especially the psychiatric aides who are in a favorable position to observe the behavior, posture, and habits of the patients on the ward. The ward physician should be notified as soon as it is noticed that the patient keeps his hands clenched or maintains a posture conducive to the development of contractures. Corrective hygienic measures by means of an organized program of activities and exercises should be instituted immediately if it is not already a part of a routine ward program. The possibility of development of attitudinal contractures occurs when a patient keeps his hands clenched to the point where he will not open them for such needs as self-care and eating. If neglected he becomes an excellent potential candidate for irreversible or nearly irreversible contractures. Referral to physical therapy for active exercises stressing extension of metacarpal and interphalangeal joints is mandatory. When patient cooperation is lacking, it is necessary to administer passive exercises, free or underwater. This cannot be overemphasized because in predisposed individuals contractures may develop in a matter of days or weeks.

It is the responsibility of the physiatrist and of the physical therapist to conduct an educational program reminding the medical and nursing staffs of the necessity for preventive measures. Usually the members of the physical medicine and rehabilitation service have an opportunity to conduct such a program in well organized hospitals where they are frequently called upon to instruct the psychiatric aides and nurses in the various procedures in physical therapy.

Complete cooperation between the ward and the physical medicine personnel is essential in the prevention of the contractures and in the program of application of splints and other devices. Prevention of this disabling condition is well worth the time and effort required. We recall the case of patient T.P., in his early thirties, whose diagnosis hinged between severe conversion hysteria and acute catatonia. This patient lay immobile, a complete nursing and feeding problem, and his care was a serious drain upon the limited nursing personnel. Because of the lack of sustained response by the patient to numerous energetic therapeutic measures in the psychiatric armamentarium and because of the long duration of illness, this patient was considered to have a "hopeless" prognosis. Nevertheless, the physical therapy department worked with him assiduously on a daily regimen of range of motion exercises. At times it was felt that all efforts were in vain. However, when psychotherapy employing the principles of Rosen's direct technic was instituted, the patient improved dramatically. Within a few months he recovered from his mental illness and walked out of the hospital in excellent physical condition. It is our conviction that if left alone, even though recovered from the mental illness, the patient would have left the hospital in a wheel chair or on a stretcher.

SUMMARY

1. Attitudinal contractures present a serious problem in the mentally ill because of their crippling effects.
2. Contractures of long standing may become

irreversible and, at best, treatment may produce limited results.

3. Ultrasound therapy followed by active and passive exercises, splinting, and the utilization of a hand towel roll have proved effective in the management of attitudinal contractures.
4. The prevention of such contractures is possible and mandatory and is a responsibility of the hospital medical personnel.

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Observations of Neck and Shoulder Girdle Muscle Action

Dorothy M. Dean, M.S.

One of the most satisfying means of studying muscle function is provided by the clinical method. The living subject with isolated muscular loss furnishes a good test of the validity of muscle functions determined through dissection and mechanical analysis.

The following case history is presented primarily to add to the knowledge of neck and shoulder girdle motion and muscle action by showing the effect the loss of certain muscles has on normal motions, and secondarily, to show what compensations can occur to produce adequate function.

J. S., a 51 year old male, underwent a radical dissection of the right side of the neck. It was necessary to sacrifice the ramus marginalis mandibulae of VII, XI, XII, and the ansa hypoglossus. The omohyoid and sternocleidomastoid muscles, the anterior, external, and internal jugular veins, the submaxillary gland, the tail of the parotid gland, and the fat of the neck were removed. Six weeks previous to the surgery, biopsy of the neck nodes was performed and as a result, there was scarring of the neck which made a clean dissection difficult. During the dissection procedure extensive bleeding occurred. The spinal accessory nerve was cut and the dorsal scapular nerve was apparently injured while clamping and tying adjacent vessels. The incision extended from the mastoid process to below the jaw line, forward to a position just lateral to the midsagittal line, with one branch continuing upward under the midpoint of the chin, and the other vertically downward to branch again as a "v" just superior to the clavicle.

Postoperatively there was extensive and prolonged drainage from a sinus terminating above the clavicle, just lateral to the origin of the sternocleidomastoid. The bandage covered the chest and shoulder girdle area on the right side and restricted, to some degree, motion of the right shoulder. There was a persistent edema of the lower face and a contracture developed beneath the skin in the scar tissue extending from the midpoint of the chin vertically downward to the clavicle.

Three weeks after surgery the head was held tilted anteriorly and laterally toward the right with the chin pointed to the same side. Motions of head and neck extension, lateral flexion toward the left and rotation toward the left were limited by the contracture. Shoulder flexion and abduction were limited approximately 60° from complete motion, although the bandage prevented the determination of what caused the limitation. There was a lower facial paralysis and some slurring of speech.

Physical therapy was ordered for relief of edema, for release of the contracture, and to assist the drainage. Specifically, luminous infrared, light massage to the face and neck, and active and passive stretching of the contracture were ordered.

Chief Physical Therapist, Winnetka Rehabilitation Center, Winnetka, Illinois.

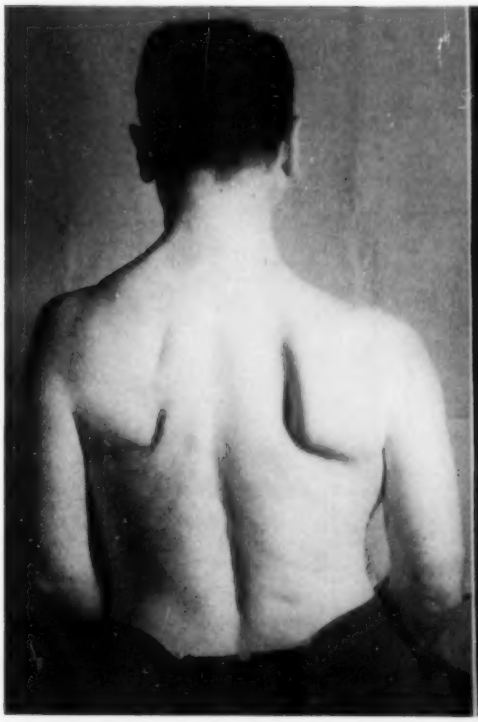

Figure 1. Relaxed sitting posture: depression of right shoulder

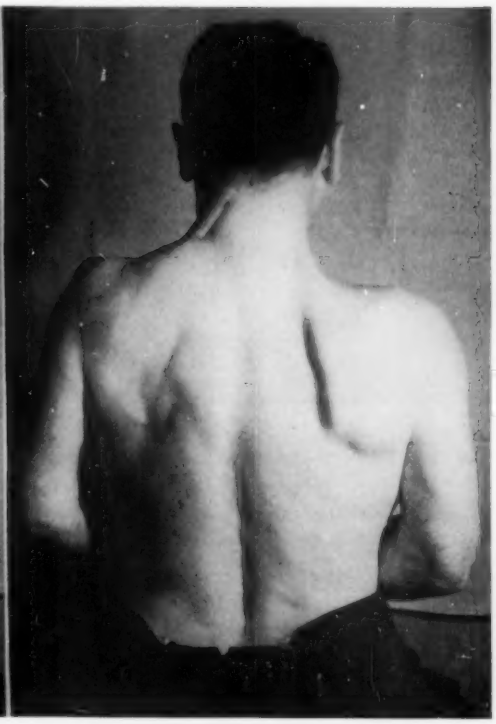

Figure 2. Attempted bilateral elevation of shoulder girdle

Infra-red was applied first with the patient supine, head turned toward the left as far as possible, and later in the prone position. The area exposed included the face, neck and shoulder area. The beginning program of active exercises was as follows:

A. *Supine*

1. Rotation of the head and neck right and left
2. Elevation and depression of the shoulder girdle
3. Protraction and retraction of the shoulder girdle
4. Head and neck flexion

B. *Prone*

1. Extension of the head and neck
2. Extension of the head and neck with rotation, right and left

C. *Sitting (in good posture)*

1. Bilateral flexion and abduction of the shoulders to 90°
2. Horizontal abduction of the shoulders with concomitant head and neck rotation to right and left

D. *Gentle passive stretching*

The drainage gradually subsided and the sinus closed. Treatment was continued for the relief of the edema of the face and the contracture of the anterior scar area. After the bandage was removed further attention could be directed toward the shoulder girdle motions and the following observations were made.

ANALYSIS OF MOTION

There was no evidence of contraction in the trapezius or rhomboid muscle on the right and, as stated above, the sternocleidomastoid had

Figure 3. Contrasting musculature of both shoulder girdles with horizontal elevation of arms

Figure 4. Complete bilateral elevation of both arms

been removed surgically. The levator scapulae contracted feebly and the edge of the latissimus dorsi could be seen and palpated at the inferior angle of the scapula. The levator scapulae and the latissimus dorsi provided the only means of scapular retraction or fixation in a posterior medial direction, and the levator scapulae offered the only means of elevation. All other muscle groups of this area including the deltoid were weaker than the opposite side. In the standing position, with the arms at the side, the right scapula rested approximately one inch lower than the left and was somewhat protracted. On attempted elevation of the arms, either forward or laterally in a sitting or standing position, there was marked winging of the right scapula and a shifting of the trunk to the left and posteriorly in an attempt to secure complete elevation of the arm. Elevation from the side through 120° was possible. The head was still held tipped to the right and forward by the anterior contracture, but attempted elevation of the arms caused it to deviate toward the left, because of the unilateral absence of the right sternocleidomastoid and weakness of the upper trapezius.

Exercises for arm and shoulder girdle were increased. Full range of shoulder motions was begun with assistance as necessary and resistance as tolerated, and extended to such activities as weight lifting and push-ups.

The accompanying illustrations were taken three months after surgery and one and one-half months after treatment was instituted. There is a beginning return of rhomboid function and a partial correction of scapular position. Elevation of the arms with and without the trapezius muscle can be contrasted on the right and left sides. The head and neck motions are more difficult to evaluate because of the absence of the right sternocleidomastoid and because of the scar contracture.

In a relaxed sitting position the posture is good. (Figure 1) There is a mild curvature of the spine. There is a severe dropping of the right shoulder, a slight lateral displacement and winging of the right scapula, and atrophy of the trapezius musculature, especially noticeable in the upper area.

Attempted bilateral elevation of the shoulder girdle, arms at the side, shows incomplete elevation on the right. (Figure 2) The trapezius can be seen contracting strongly on the left, but on the right only the levator scapulae can be seen attempting to produce some elevation of the scapula. Again there is a winging of the scapula.

Lateral elevation of both arms to horizontal contrasts the musculature of both shoulder girdles. (Figure 3) There is an obvious absence of function of the right trapezius muscle. Thin strands of rhomboids can be seen on the right, attempting to fix the scapula. The weight of the right arm tends to displace the scapula laterally because of a lack of scapulospinal fixation by the trapezius and rhomboid muscles. There is a tendency toward cervical and dorsal vertebral deviation to the left because of the muscle imbalance between left and right. The sacrospinalis

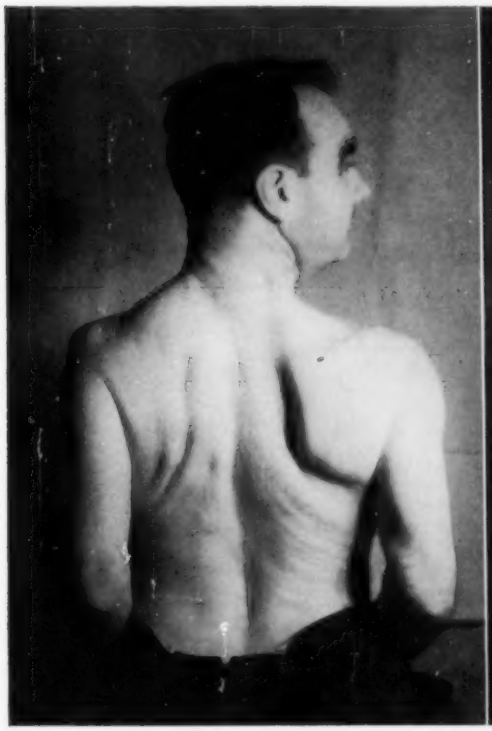

Figure 5. Rotation of head toward right

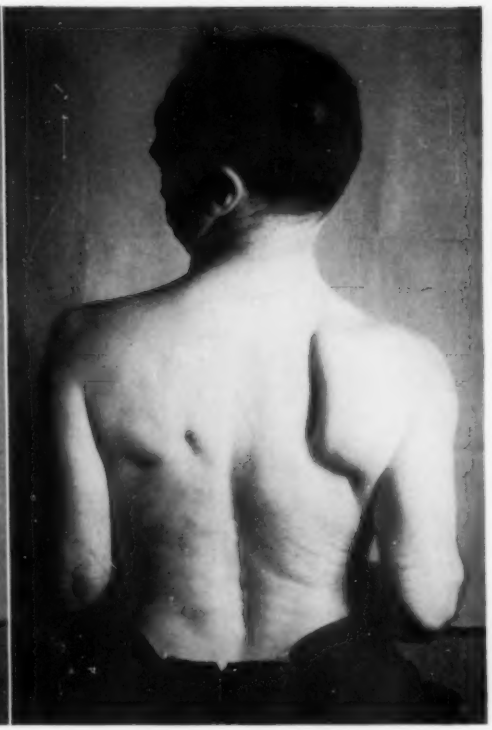

Figure 6. Rotation of head toward left

and deltoid muscles and the clavicle are prominent on the right. The range of motion is equal to that of the normal side and the general posture is good.

Complete bilateral elevation of the arms elicits a slight displacement of the shoulder girdle away from the chest wall. (Figure 4) The pattern of scapular rotation remains essentially normal. Lateral rotation of the scapula can be accomplished adequately by the serratus anterior. The serratus anterior, the infraspinous group, the deltoid and the pectoralis major are prominent. The hollow is due, primarily, to the absence of the trapezius. Again the unequal muscle pull tends to deviate the cervical vertebrae to the left.

Rotation of the head and neck toward the right and left, demonstrates involvement of the same muscle groups as above. (Figures 5 and 6) In addition, these motions are complicated by the loss of the right sternocleidomastoid muscle and the scar contracture on the right. The range of rotation to the right is excellent and the shoulders are quite level. The levator scapulae can be seen attempting to fix the scapula and vertebrae. Marked winging of the scapula is again present. Motion of the head and neck to the left is limited in part due to the absence of the right sternocleidomastoid and in part due to the anterior scar contracture. The contrast can be seen between left and right scapular fixation.

At the present time, five months following surgery, there is a continuing decrease of the edema and the contracture. The neck motions are only slightly restricted and there is improvement in the head, neck, and shoulder positions. The patient uses the extremity well. Lifting heavy weights is very tiring, but he is a business man and does not have to do heavy manual work. He is an ardent fly fisherman and can cast with the right extremity for two hours without tiring.

SUMMARY

This case of a radical dissection of the neck in which the spinal accessory nerve was cut and the dorsal scapular nerve injured, shows complete paralysis of the trapezius muscle and severe paresis of the rhomboids on the right side. Loss of these muscles does not markedly affect the function of the extremity. The arm can be elevated in the frontal and sagittal planes through 170°. The greatest handicap in functional motions is the loss of scapulospinal fixation and scapular retraction and elevation power. There is no adequate compensation for these functions of the trapezius and rhomboid group. The only muscle with a partial similar function is the levator scapulae. This hypertrophies rapidly, but because of its position and mechanical direction of pull, it can provide only minor assistance in retraction and elevation. This inadequate scapulospinal fixation produces a weakness in pulling or lifting motions and in activities which require partial or complete elevation of the arm to be sustained for long periods.

Suggestions from the Field

The Semiautomatic Educational Wheel

Marguerite Jensen, B.A.
and Samuel Kossack, B.S.S.

Kepley School for Physically Handicapped Children is located in Imperial Valley, California, and has an enrollment of 29 children. It functions under the crippled children's services of the state department of public health. The staff consists of two full-time teachers, one half-time teacher, and a physical therapist.

Enrolled in the school is C. F., a five year old cerebral palsied child of the servere nontension athetoid type. All four extremities are without function and she is unable to hold her head erect. She has no speech.

During the two years that she has been at school, she has shown by emotions, facial expressions, and directional glances that she understands, but she has been unable to express herself. The usual educational technics employed for crippled children proved inadequate for her. Consequently we had to devise a substitute means of communication to meet the individual needs. Faced with the challenge of attempting the preliminary phases of educating this child, who indicates that she comprehends but has been unable to utilize any means of communication to express herself, we developed the semiautomatic educational wheel.

When we first explained the problem to her father, he developed a clever three-light device which she could turn on by banging three matching colored rubber blocks, each block turning on a different colored light. (Figure 1)

While this device motivated her momentarily, it was inadequate for her needs because: (1) it was too limited to retain her interest; (2) it required a relatively precise arm movement which was too difficult for her; and (3) it lacked the versatility required for education in language and numbers.

We realized then that we would require something that involved gross voluntary arm movement, that retained her interest, and offered educational possibilities. We called in several members of the Rotary Club, several members of the community, and the manual training adviser for the county schools.

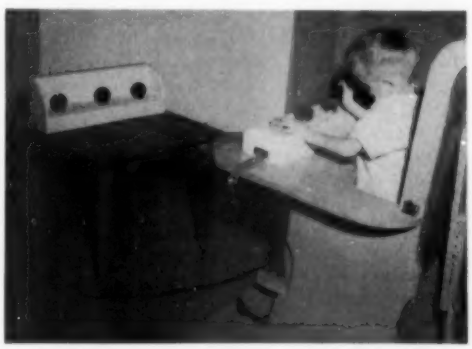

Figure 1.

From the Kepley School for Physically Handicapped Children, Marguerite Jensen, Teacher for Special Classes; Samuel Kossack, Physical Therapist, Norwalk, California.

Figure 2.

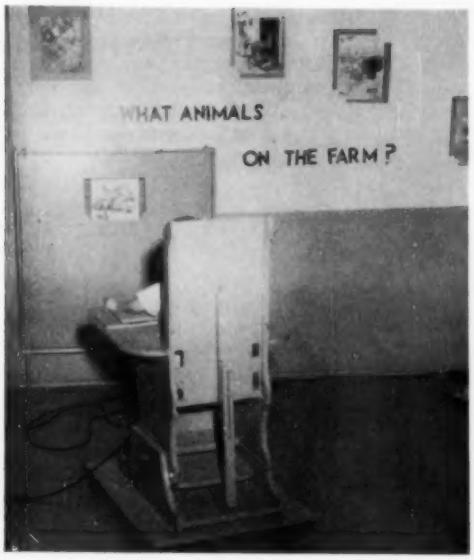

Figure 4.

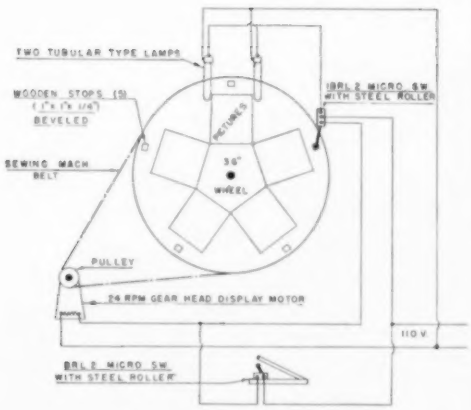

Figure 3. Operator presses momentary contact switch which actuates wheel, wheel rotates 1/5 turn then is stopped by roller striking beveled block. Light to illuminate picture is on when wheel is stopped.

After several meetings, plans were drawn up for the semiautomatic wheel. The device consists of a rotating wheel mounted on a fulcrum with framed pictures and an electric control mounted on the child's tray. The apparatus is controlled by an electric switch housed between two hinged boards. The child hits the large board thereby driving the wheel, which is set in a large rectangular box, around one-fifth of its circumference, or 72 degrees, making visible one of the framed pictures which lights as it swings into view. (Figure 2)

The final functioning wheel was constructed and remodeled by an interested retired business man of El Centro, and a local electrician. (Figure 3)

In using the wheel we have started with simple, vivid pictures to help her feel the desire for voluntary activity — pictures which she can understand and about which her teacher tells a story. She shows considerable interest. She will use the wheel as a picture book this summer at home. The use of the switch presents no difficulty; however, it had to be padded for her protection. (Figure 4)

After feeling sure she has established the voluntary movement necessary for more advanced work, we hope to get her to progress to the point of selecting a particular picture on the wheel

by using the switch repeatedly, with a teacher giving directions and praise for the accomplishment. Through this means we can teach vocabulary, story sequence, and enlarge her entire experience range. We then plan to teach word recognition and number recognition. If we are successful, an avenue to all phases of education will be open to her.

A new method of approach in developmental training of a cerebral palsied child has been given. The application of this apparatus may be of value in other cerebral palsy programs.

Suggestions from the Field

Elastic Shifting Strap

Florence Jamieson

The elastic shifting strap is an effective device for counteracting a postural curvature of the spine. If possible, the cause of the shifting of the trunk should be corrected first. For instance, if there is a discrepancy in leg length, compensation should be provided by shoe alterations.

Materials needed for the elastic shifting strap are: ¾" or 1"wide nonelastic webbing; 1" or 1¼" wide heavy elastic such as may be purchased at a notions counter; 1" or 1¼" wide soft quality elastic belting such as is used on pajama trousers.

The underarm and shoulder straps (A) are made of the nonelastic webbing. The underarm strap should extend to a point about half way between the nipple and the body midline, and to a position opposite this in back. This keeps the shoulder strap from slipping off the patient's shoulder. The shoulder strap should be long enough so that the underarm strap does not press against the axilla.

Measure around the thigh just below the gluteal fold for the thigh band (C). This need not be uncomfortably tight.

To measure the shifting strap which begins anteriorly (B1), pin the elastic to the anterior joining point of the shoulder and underarm straps (A). Bring the elastic diagonally downward across the chest, over the apex of the curve, diagonally downward across the back, along the lateral aspect of the crest of the ilium, and down to the thigh band (C), somewhat medial to the anterior midline of the thigh.

To measure the shifting strap which begins posteriorly (B2), pin the elastic to the posterior joining point of the shoulder and underarm straps (A). Bring it diagonally downward across the upper back, across the apex of the curve, diagonally downward across the abdomen, along the lateral aspect of the iliac crest, and down to the thigh band (C), somewhat medial to the posterior midline of the thigh.

Sufficient tension should be applied in measuring to assure the necessary corrective pressure in the finished strap. The first point of crossing should be over the apex of the curve; the second crossing should be above the iliac crest, just lateral to the anterior superior spine of the ilium.

It is best to get an approximate measurement with a tape measure, then pin on the elastic, pinning again at each point of crossing, and

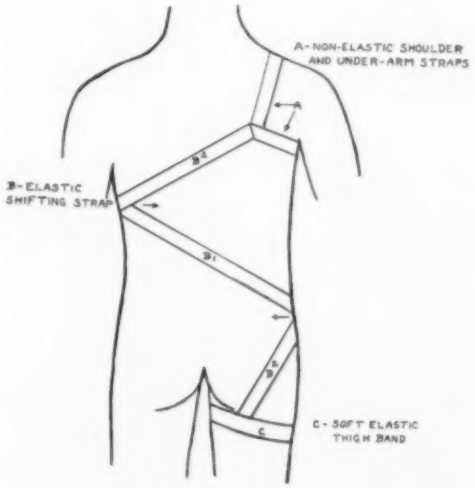

Figure 1. Elastic Shifting Strap

Physical Therapist, Bureau of Crippled Children's Service, California Department of Public Health, Cerebral Palsy Program, Vista, California.

using enough tension to bring the body into good alignment. The straps should be stitched at the crossing points as well as at the points of joining.

To put on the completed strap, the patient puts both feet through the two large loops, and the foot on the side of the concavity of the curve through the smaller loop of the thigh band. The arm is then slipped through the loop of the shoulder and underarm straps. Pads of sponge rubber or several layers of soft material may be placed under the crossing points of the strap to make it more comfortable.

USAR—A Professional and Patriotic Challenge

Captain Mary K. Connelly, AMSC

Less than ten per cent of the Army Medical Specialist Corps spaces in Reserve units are filled. Startling? Yes, and in many ways this is a reflection of the complacency of the American public in the face of uneasy world conditions. Hundreds of physical therapists who responded immediately to the call to active duty during World War II and Korea are apparently unaware of the present need in the U. S. Army Reserve.

When President Eisenhower signed the Reserve Forces Act of 1955, the attention of the whole population was again focused on the plans for National Defense. Traditionally, America has relied on a strong civilian Reserve force to preserve our way of life and this legislation is designed to build such a force. The new emphasis is on training for disaster at home as well as conflict abroad.

The Reserve units of the Army Medical Service have been organized to provide this training for professional and enlisted personnel. The physical therapist is in the enviable position of possessing the talent and education to make a valuable contribution to this program. By participating in medical unit activities the physical therapist can discharge the responsibility of sharing professional knowledge, a responsibility always proudly borne by medical personnel.

From the Office of The Surgeon General, Dept. of the Army, Washington, D.C.

But membership in a Reserve unit does not imply all teaching. It is learning, too. With other members of the medical team there is ample opportunity to grow professionally with advances in military medicine. Through lectures and demonstrations the worldwide experiences of the *Army Medical Service are brought to your home town.*

In addition to these subjects of general interest there is a specific course of instruction on Selected Military Aspects of Physical Therapy and Occupational Therapy. Prepared at the Walter Reed Army Institute of Research, Washington, D. C., this course outlines eighty-four hours of instruction for Army Medical Specialist Corps officers and is complete with references and suggested film lists. It is available to organized Reserve units.

For the Reserve officer not assigned to a mobilization unit with regular weekly meetings and two weeks' summer training there are other ways to keep currently informed and to earn retirement point credits. In large towns and cities there are USAR schools where pertinent courses are given. For school attendance there are fifteen days of active duty training and points for retirement, as well as pay when authorized.

Satellites of these schools are groups of five or more officers of the same service who participate in this training activity. For a group of AMSC officers located too far from a unit or a school, this is an ideal study group and authorizes the same credit for retirement.

The Army Medical Service School, Fort Sam Houston, Texas, offers correspondence courses if you desire to study at home and earn supplementary retirement point credits. The subjects offered to the Medical Service officers range from those of general interest to those specific to physical therapy.

A limited number of AMSC officers may request active duty for a one-week institute conducted at the Walter Reed Army Institute of Research for the development of management skills in relation to dietetics, physical therapy and occupational therapy. Application for this institute can be made through the Chief of the Military District to the Army Commander.

The pleasant associations and comradeship of Reserve units is well known. The bond between professional persons working together for their country carries over into everyday civilian life. It becomes part of personal growth.

The Army recognizes that active membership in the Reserve carries certain obligations involv-

ing time and effort. To compensate for this there is an attractive program of pay for attendance at meetings and summer training, promotion based on years of service, additional experience and educational preparation, and points for retirement at the age of sixty with completion of twenty years of satisfactory Federal service.

A day's pay and a point for retirement is earned for attendance at each meeting or day of active duty summer training. For a first lieutenant with over two years of service this amounts to more than $11.00 a day. Pay increases with higher rank and additional years of service. Through the Army Reserve it is also possible to qualify for a retirement income which equals an investment of $30,000.00.

Uniforms, for which there is an initial $200.00 allowance, can be purchased from the Army Quartermaster. A uniform maintenance allowance of $50.00 can be requested after four years of satisfactory Reserve Service.

The present concept of the possibility of nuclear warfare emphasizes, of necessity, preparation for disaster at home. What better way is there to serve your community than to participate in Reserve training? In times of disaster great demands are made on medical personnel. Why not prepare yourself for your new responsibilities? As a Reservist, you can proudly take your place, serving your country and your community through your profession. It has been said, "We in this country have freedom except the freedom to shirk our responsibilities."

For detailed information call on your USAR headquarters in your local Military District.

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(Continued on page 150)

Editorial

Membership in the American Physical Therapy Association is a privilege awarded or granted to graduates of schools approved by the Council on Medical Education and Hospitals of the American Medical Association and certain physical therapists trained in other countries who fulfill prescribed requirements and successfully complete an examination. A privilege, according to Webster, ". . is a right or immunity granted as a peculiar advantage or favor; a fundamental or sacred right; one of the rights guaranteed to all persons by modern constitutional governments."

The fact that membership is a privilege is one of its strengths, for all who take advantage of it do so voluntarily. One wonders why all who are eligible do not avail themselves of the privilege. For many the reason is apathy, for some shortsightedness, for others a financial one.

For those who are apathetic one wonders if that characteristic does not manifest itself in both their professional and personal lives, never really realizing their potentials nor doing more than is necessary to get by and putting off to tomorrow things which could be done today.

For those who are shortsighted, who cannot see for themselves what the American Physical Therapy Association has done and will continue to do for the profession, and thus for them—they want to be shown, to be told in a neat little package. Do they, it is wondered ever seek for themselves reasons why they are doing things; do they ever thoughtfully evaluate what they read; do they ever feel the need of professional contacts or support; are they sufficient unto themselves?

For those who fall back on costs—are they using this as an excuse for the above characteristics? For some probably not, but for others it might be judged as yes. For the amount of dues is less than two dollars a month, slightly more in some states where there are additional dues. It is hard to believe that there is a physical therapist who cannot afford two dollars a month to support the organization of the profession he elected to enter or the time to go to meetings and join with fellow members in carrying out the objects of the Association.

Some fall back on "the meetings are dull" but do nothing about it; others express their disagreement with the leadership of democratically elected officers by withdrawing so that their voices are lost.

The American Physical Therapy Association has faithfully served the membership for nearly 35 years. It has grown from an organization of 200 to 6,700. Through the efforts of members elected to office and appointed to committees nationally and locally it has taken its rightful place among other professional organizations. It has elevated physical therapy from a technical vocation to a profession. To the great number of members who have served so unselfishly and at great sacrifice, all physical therapists now and in the future owe a deep debt of gratitude. Young people entering the field now have little concept of what has gone on before. It is not possible to tell the whole story but some understanding of the growth and development, of purposes and goals, is necessary if they are to later assume properly the leadership which will be theirs. You, the members, in your every day contact with new members have a responsibility to your profession to keep it strong in numbers and in spirit.

Student membership in the Association has increased every year and is nearly a hundred per cent. But each year too many of these student members fail to transfer to active membership. Is it because in their clinical affiliations or first job they meet with apathy and shortsightedness? Could be! We know, too, of many physical therapists who are free wheeling; they are invited to meetings, are included in social activities, read the hospital's *Physical Therapy Review*, are employed under personnel policies developed by the Association, and enjoy the prestige of the profession.

It is a well known fact that one is more concerned about the blacksheep in one's flock, stemming no doubt from the parable of the Prodigal Son in the Bible. The voice of the minister, priest, or rabbi to his congregation does not reach those to whom it is directed, rather it reaches the faithful who are present.

How can we reach them? You can help by bringing to the attention of your colleagues at work what your professional organization has done and is doing. If you don't know, read your *Review*, think and ask questions. One of the easiest ways to identify yourself to your colleagues and patients as a member is by wearing your sleeve patch and pin. Let them be symbols as the nurse's cap is a symbol.

The American Physical Therapy Association offers you—through the *Review*, its consultants of Professional Education, Professional Services and Chapter Activities in the National Office, National Committees, annual conference, chapter meetings and committees—opportunities for professional growth. It is there for the taking and asking. Get others to take advantage of the privilege which is yours and theirs. Be a truly active member. Assume responsibility for helping someone else to be active. Let our philosophy be one of doing rather than accepting, giving rather than receiving, understanding rather than to be understood. Your rewards as an individual and as a professional person will mount in proportion.

Association Activities

Editorial Board Meets

The Editorial Board of the *Physical Therapy Review* held its annual meeting in the National Office on January 3, 1956. The various phases of the *Review* were considered including discussion of the student section, scientific articles, abstracts, book reviews, the annual index, the recently developed "What's New" section, and classified want-ads. Action taken establishes a change in policy for classified advertising in the *Review* regarding salary quotations and increased rates beginning May 1, 1956.

Gratification was expressed by the Board for the increasing number of manuscripts submitted for consideration. It is the hope of the Board that more physical therapists will contribute scientific papers in the future. Quality of material and potential reader interest are the criteria for publication.

Throughout the meeting the unanimous concern of the Board was to provide a professional journal which offers the highest possible degree of service to our members.

Chapter News

Colorado

"Meet the New Students," a section in the Chapter Newsletter, is done in poetry form; one verse per student, and includes the following introduction:

> Here comes the class of '56
> Charming, intelligent, lunatics.
> A bevy of beauties, but one surpasses all:
> Lovely 'Miss PT'—a hollow, bony doll,
> Three inch waistline, kyphosis of the spine,
> But epiphyseal development exquisitely fine.
> They make us rub, they make us scrub.
> They put us in the Hubbard Tub.
> We cut all day near Mr. Whey,
> And smell so bad our friends can't stay—
> BUT—we love it!

Northern California

A chapter survey of existing personnel policies for physical therapists has been completed. Reported findings of the survey are available to members of the chapter for discussion with administrative personnel.

Ohio

The recent 11 page Newsletter of the Ohio State Chapter includes a message from the Chapter President, the Chief Delegate's report with references to the *Physical Therapy Review*, a discussion of state licensing, and news from the districts. No less than 90 chapter members are mentioned with regard to educational achievements, professional advancements, members' articles recently published, and extra-curricular activities.

Pennsylvania

The following is quoted from the Annual Report of the President, Mary E. Kolb:

"The record of the American Physical Therapy Association for an organization its size has been an impressive one. Often in the interest of expediting business, we forget to mention the positive, forward steps of the National, State, and District organizations. No one unit stands alone —the accomplishments of one part of the structure represents gains for all other parts. Too often we take for granted that people read the newsletter or *Physical Therapy Review* or that they have had the benefit of all the knowledge we have gained through committee participation and many years of membership. Our newer members simply do not know, and membership education must be a continuing process. So first of all let us try for better interpersonal relations among a fully informed membership. At the same time let us work to increase our numbers. There are in this state many people who are qualified to belong to our Association but who have never bothered to transfer their student membership to active status or who have let their membership lapse. Each member of the Pennsylvania Physical Therapy Association should take upon himself the responsibility of acquainting these people with the aims and purposes of our organization and of the work accomplished both nationally and locally. This coming year I would like to see the work of in-

dividuals supplemented by strong and vigorous membership committees in each district. Another related area is that of member participation. Our Chapter figures parallel closely those of our National organization in that only about one third of our members have actively participated in chapter activities. Every effort should be made to increase membership participation in order to have a vital and forward looking organization."

Texas

Beginning with the November issue, the Texas Newsletter became a monthly, one-page publication. Announcements of the next district meetings are featured. The Newsletter also contains information about Texas-to-New York travel costs since the Chapter is considering group travel to the World Congress.

Shirley Cogland Honored

Shirley Cogland, Director of the School of Physical Therapy at Simmons College and Supervisor of Physical Therapy at the Children's Medical Center, was the recipient of the Children's Service Citation from the American Toy Manufacturers of the United States Inc., for "outstanding contributions in the service of children."

The citation was awarded at a luncheon on December 5, 1955. Mr. Basil O'Connor and Dr. Howard Rusk also received citations.

Congratulations to Shirley Cogland for this richly deserved recognition.

Contributions

Recent contributions to the Second Congress Fund:

Bouvé-Boston Physical Therapy Students' Club	$ 10.00
Anonymous	50.00
Virginia Chapter	20.00
Western District, Massachusetts Chapter	10.00
West Central District, Ohio Chapter	13.00
Central District, Pennsylvania Chapter	50.00
Southern California Chapter	167.00
San Joaquin Valley Chapter	26.00
Northern District, Oregon Chapter	30.00
Central District, Ohio Chapter	29.00
Texas Chapter	63.00
Middle District, Tennessee Chapter	16.00
San Diego Chapter	13.00

Total to date from districts, chapters and individuals—$2977.59.

New Scholarship Program

National Association of American Business Clubs

It is a pleasure to announce that during the 1955 National Convention of the National Association of American Business Clubs the membership accepted the project of providing financial assistance for prospective students in physical, occupational, and speech therapy to relieve shortages of personnel. The Association was notified of the official activitation of the Scholarship Program in November.

The initial fund of $2,500.00 for physical therapy students will be offered to those in the Junior, Senior or Certificate year. Decisions of the Committee will be based on financial need, academic promise, and personal qualifications.

The NAABC Scholarship Program will be added to the 1956 edition of the brochure, "Sources of Financial Assistance for Physical Therapy Students." Additional details and application forms may be obtained from:

Thomas J. Natoli, M.D., Chairman
National Scholarship Program
National Association American Business Clubs
c/o Cerebral Palsy Clinic
Washington School
Norristown, Pennsylvania

The offering of scholarships to prospective physical therapy students is a significant contribution to the recruitment and education activities of the Association and we are grateful to the NAABC.

United Cerebral Palsy Association

The activities of the United Cerebral Palsy Scholarship Fund have been completed for the 1955-56 grant of $10,000.00. The Association is grateful to the United Cerebral Palsy Association for its tangible assistance in the training of additional physical therapists so that the need of patients requiring physical therapy services may be better met. A final report from the Scholarship Committee includes the following statistics:

	1954-55	*1955-56*	*Grand Totals*
Amount of Grant	$15.000.00	$10.000.00	$25,000.00
Applicants Considered	56	53	109
Awards Granted	37	25	62
Funds Awarded	$13.197.00	$ 9.720.50	$22,917.50
Schools Represented	16	16	21
Highest Single Award	(3) $700.00	$600.00*	$700.00
Lowest Single Award	$104.00	$ 57.50	$ 57.50
Average Award	$356.68	$388.82	$369.63

* A maximum award limit was set at $600.00 for present grant

Marriages

Marilyn D. Fairman, of Springfield, Vermont, to Robert E. Burns, Springfield.

Marion Flaxman, of Dearborn, Mich., to John Dreifus, Detroit, Mich.

Mary Ann Haring, of Long Beach, Calif., to William B. Johnson, Southgate, Calif.

Marjorie Kehl, of Indianapolis, Ind., now Mrs. Marjorie K. Begeman, Indianapolis.

Nancy Knouse, of Coatesville, Pa., to John V. Berry, Brooklyn, N. Y.

Louise Olmstead, of Akron, Ohio, now Mrs. Louise O. Fry, Detroit, Mich.

Barbara Simpson, of Kenmore, N. Y., now Mrs. Barbara S. Baker, Norfolk, Va.

Mary Corinne Spath, of Pueblo, Colo., to Ray S. Wilson, Pueblo.

Betty Tachovsky, of Bethlehem, Pa., to George C. Kline, Bethlehem.

Jeanne Unbehaun, of Cleveland, Ohio, to Harold Whitson, Cleveland.

Janet Vichinsky, of Washington, D. C., now Mrs. Janet V. Walthall, Takoma Park, D. C.

Physical Therapist Marries in Korea

Readers will recall the letter from Korea which was published in the June 1955 issue of the *Review* reporting the activities of Louise Skarin, physical therapist and occupational therapist, assigned to Seoul, Korea, by the Presbyterian Mission.

A recent letter brings the news of Miss Skarin's marriage to Rev. William A. Grubb on June 30, 1955, at the Yun Dong Presbyterian Church in Seoul. They are now stationed in Taegu where another training center for amputees is located in connection with the Presbyterian Hospital.

The Seoul project for amputees has been curtailed somewhat because of funds diverted to the Taegu project but the opening of a new brace shop has increased the service to poliomyelitis and orthopedic patients. The physical therapy department at Severance Hospital, Seoul, is quite busy and is now equipped with whirlpool and infra-red lamps, as well as providing for therapeutic exercise and ambulation activities.

Member's Article in *Nursing Outlook*

Ita K. McDermott, Association member, is co-author of "We Can Help Arthritic Patients" which appears as the lead article in the November, 1955, issue of *Nursing Outlook*. Miss McDermott is Administrative Assistant in Physical Therapy, Visiting Nurse Association, Brooklyn. The article presents the approach used by this organization in establishing home care programs for the arthritic patient. The project and evaluation of results were supported in part by a grant from the New York Chapter of the Arthritis and Rheumatism Foundation.

Professional Recognition

Another step in our efforts to obtain full professional recognition was recently achieved when the Assistant Director of the Bureau of Employment Security of the U. S. Department of Labor replied to our request as follows:

> "This is in reply to your letter of November 2, concerning the reclassification of PHYSICAL THERAPIST in the *Dictionary of Occupational Titles* to the professional category. After restudying this occupation, it is agreed that the occupation of PHYSICAL THERAPIST should be included with the professional occupations. Accordingly, a new code number, 0-39.935, has been assigned to it. This change will be noted in a future release of the *Dictionary*."

Physical therapy has previously been listed as a semiprofessional occupation.

Library of Congress Accepts Film

"Physical Rehabilitation," a film written and directed by Christine K. Kline, has been selected by the Library of Congress for its permanent collection. The film was produced while Miss Kline was associated with the Idaho Elks Rehabilitation Center and has as its central theme the rehabilitation of a paraplegic patient. Miss Kline served as President of the Idaho Chapter 1952-1953. Her present position is that of Technical Director of the United Cerebral Palsy Center, Youngstown, Ohio.

Commissions of Male Physical Therapists in Army Medical Specialists Corps

Recent legislation authorizing the appointment of male dietitians, physical and occupational therapists as Reserve officers in the newly designated Army Medical Specialist Corps has prompted many inquiries concerning draft status of eligible men in these professions.

A limited number of qualified Army Medical Specialists, male and female, will be appointed this year according to the same criteria as heretofore. Applications are submitted and processed through the Army commanders. Selections are made in the Office of The Surgeon General.

If selected for a commission with concurrent call to active duty for a two-year period, the male Medical Specialist may fulfill the remainder of his six or eight year period in a Reserve status. However, an individual with an obligation for military service may not apply for a commission without concurrent active duty.

Men with no obligation for active duty under present law may apply for a commission to fill a unit vacancy in the Reserve not on active duty, if otherwise qualified.

Qualified persons who are currently serving on active duty as officers or enlisted men but not in their professional specialty may apply for a commission in the Army Medical Specialist Corps through appropriate military channels.

Medical Specialist Corps

The Surgeon General of the United States Air Force announced that the former Women's Medical Specialist Corps has been redesignated the Medical Specialist Corps. Whereas commissions in the fields of hospital dietetics, physical therapy, and occupational therapy were previously restricted to women, appointments in the Reserve component are now open to men who are fully qualified in these professions. Initial appointments of both men and women are made only when accompanied by a request for extended active duty and to fill existing requirements in USAF hospitals. Further details may be obtained from Colonel Miriam E. Perry, USAF (MSpC), Chief, Medical Specialist Corps, Office of the Surgeon General, Headquarters United States Air Force, Washington 25, D. C.

First Male Physical Therapist Commissioned

Sheldon Saffren, a member of the Association, was commissioned a second lieutenant in the Army Medical Specialist Corps on December 30, 1955. Lieutenant Saffren is the first male physical therapist to receive a commission since the reorganization of the Corps. Prior to his assignment to Fort Sam Houston, Texas, Lieutenant Saffren was a member of the physical therapy staff of University of Pennsylvania Hospital.

Sheldon Saffren receives insignia from Dr. Isidor S. Ravdin, Professor of Surgery at the University of Pennsylvania and a Major General in the U. S. Army Reserve, as Mrs. Saffren looks on.

Association Represented at Conference

In a further effort to accelerate help to some 10,000,000 Americans who are suffering from brain damage of various kinds, the National Health Council announces that it has established a special committee on Neurological Disability as one of its major projects for the new year.

The action was taken at a meeting of the Council's Board of Directors on December 16, after hearing a report concerning the findings and recommendations of the first "National Conference on Neurological Disability as a National Problem," held earlier in December under the Council's Sponsorship at Arden House, Harriman, N. Y. Lucy Blair represented the American Physical Therapy Association at the conference.

Reporting on the three-day conference at Arden House, Leonard W. Mayo, of New York, Director of the Association for the Aid of Crippled Children, emphasized to the Council that the five discussion groups attending had unanimously recommended continuation of the work started there.

Under the resolution adopted by the Council's

Board of Directors, the committee which planned the Arden House meeting will be continued as a permanent group appointed by the president of the Council, Dr. Hugh R. Leavell, of the Harvard School of Public Health. The committee will be responsible for developing plans for further action in accordance with the recommendations of the conference, as well as planning the production and distribution of publications from that meeting.

The committee, headed by Dr. Glidden L. Brooks, Medical Director of United Cerebral Palsy, includes Dr. Maurice Fouracre, Head of the Department of Special Education, Teachers College, Columbia University; Dr. John Gorrell, Director of Medical Services, National Foundation for Infantile Paralysis; Dr. Arthur J. Lesser, Director, Division of Health Service, U. S. Children's Bureau; Lawrence J. Linck, Executive Director, National Society for Crippled Children and Adults; Mr. Mayo, and Philip E. Ryan, Executive Director of the National Health Council.

The Arden House conference, the first of its kind, brought together 50 of the nation's leading specialists most directly concerned with various aspects of the problem. Since brain damage occurs from many diseases or other causes, the conference included men and women active in voluntary health agencies, universities, community and government agencies, doctors, nurses, therapists and others working in this wide field.

In small and larger group sessions, the conferees discussed realistically what is now being done for individuals whose nervous systems have been impaired from many causes, the costs and the effects on the communities involved and the nation at large, and potential steps which could brighten the futures of these children and adults.

Current programs of research now being conducted under government or voluntary sponsorship and the possibilities of broadening and expanding scientific studies in the future also were considered.

Recommendations for cooperative action made by the conferees in five major areas will be published later.

Summarizing the conference, Mr. Mayo recommended that a comprehensive total program of help be formulated and that it be presented to the American people, with a "price tag" of the cost involved and the benefits which would accrue.

Members Honored by Veterans Administration

Congratulations are due several Association members who recently received awards of "outstanding rating" from the Veterans Administration by whom they are employed. The awards which are considered a great honor are given for special achievement in administration and organization, program development or work simplification. Recipients of this type of award include Amy Campbell, Veterans Administration Hospital, Fayetteville, North Carolina; William Kupsky, Veterans Administration Hospital, Wilkes-Barre, Pennsylvania; Elizabeth Parrish, Veterans Administration Regional Office, San Francisco, California; and Dan Strelnick, Veterans Administration Center, Wood, Wisconsin.

APTA-OVR Institute on the Correlation of Physiology with Therapeutic Exercise

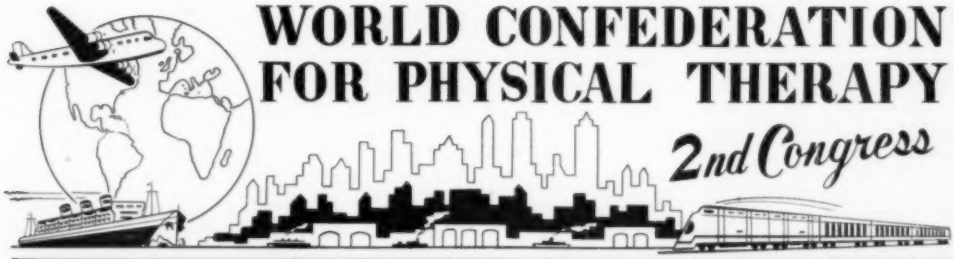
The Faculty has been selected for the second Institute for physical therapy instructors, cosponsored by the Office of Vocational Rehabilitation and American Physical Therapy Association, which is to be held April 16 through 20, at the Extension Study Center, University of Oklahoma, Norman, Oklahoma. It includes Edna Blumenthal, Signe Brunnstrom, Sara Jane Houtz, Florence Kendall, Laura Smith, Ernst Fischer, M.D., and H. J. Ralston, Ph.D.

A meeting of the Faculty and the Chairman of the Planning Committee was held on January 20 and 21 to finalize the program details. A copy of the preliminary program will appear in the March issue of the *Review*.

Admission to the Institute will be limited to physical therapists who are instructors of physiology and/or therapeutic exercise from the 35 approved schools and from the 2 schools currently awaiting approval from the American Medical Association. Travelships for actual costs of travel will be available to students needing assistance. All students must finance their own living accommodations.

For application form and information on room reservation and travelships write to:

Miss Helen K. Hickey
Educational Consultant
American Physical Therapy Association
1790 Broadway
New York 19, N. Y.



JUNE 17—23, 1956 · HOTEL STATLER · NEW YORK, N.Y.

Intermediate Program

Full details concerning the Second Congress program, topics and speakers, may be found on pages 54-57 of the January issue of the *Review*.

Post Congress Educational Courses

Details of the Post Congress Educational Courses to be held at the University of Connecticut, Boston University Sargent College, and the Kessler Institute for Rehabilitation are also included in the January issue of the *Review*, pages 60 and 61.

Speakers at Second Congress

ELLA ANDERSSON graduated in physical therapy from Teilmann's College, Copenhagen, Denmark in 1947. She has held the positions of assistant and head physical therapist at Teilmann's College; physical therapist at University Hospital, Copenhagen, in the Department of Chest Surgery, and the Department for Cerebral Palsy. In her present position at Blegdam Isolation Hospital, Copenhagen, Miss Andersson treats poliomyelitis patients with respiratory involvement. She has lectured on the subject of treatment for this type of patient in Sweden, Norway, and Iceland as well as in her own country. The Danish and Norwegian Journals for Physical Therapists and the Icelandic Journal for Hospital Nurses have published Miss Andersson's articles. She will discuss "Physical Therapy in Acute Respiratory Poliomyelitis."

ROBERT L. BENNETT, M.D., (University of Pittsburgh, 1936) is the Medical Director, Georgia Warm Springs Foundation; Director, Graduate School of Physical and Occupational Therapy, Warm Springs Foundation; Professor of Physical Medicine, Emory University; and Chairman of Department of Physical Medicine, Emory University Hospital. He serves as Consultant in Physical Medicine to the United States Army, the Veterans Administration, and the Crippled Children's Division, Georgia State Department of Health.

In 1955 Dr. Bennett received the Gold Key Award of the American Congress of Physical Medicine. The President's Committee on Employment of the Physically Handicapped cited Dr. Bennett for outstanding services to the handicapped.

Dr. Bennett will discuss "Bracing: Purpose, Fitting and Development" during the symposium: Bracing and Adaptive Equipment for Neuromuscular Disorders.

EILEEN MONTGOMERY received her training in physical therapy at the National Hospital for Nervous Diseases and University College Hospital, London. She studied at the Diploma Institute of Ray Therapy, London, and did further postgraduate study in 1948. Mrs. Montgomery has served on the staff of the Bristol General Hospital; initiated prenatal instruction classes for Gloucester County Council, Southmead Hospital, Bristol; Physiotherapist-in-Charge, Gynaecological Unit, Bristol General Hospital; and at present is Physiotherapist-in-Charge, Bristol Maternity Hospital.

Mrs. Montgomery will present a paper entitled, "The Physical Therapist on the Obstetrical Team."

GLADYS M. STOREY, is in charge of the Thoracic Unit, St. Thomas' Hospital, London, England. Miss Storey is a graduate in nursing, St. Bartholomew's Hospital, and completed her education in physical therapy at St. Thomas' Hospital in 1946. She served at St. Thomas' Hospital as a staff physical therapist in the electrotherapy department from 1946–1948 and assumed her present position in 1948.

Miss Storey is the author of a recently published book, "Thoracic Surgery for Physiotherapists" and will present "Physical Therapy in Thoracic Surgery" at the Congress.

MARIAN WILLIAMS (M.A. Stanford University, 1943) received her physical therapy education at Childrens Hospital, Los Angeles, in 1938. Miss Williams has been a member of the physical therapy staff of the Carrell-Girard Clinic, Dallas, Texas, and the Children's Hospital, San Francisco, California. Her present position is Assistant Professor of Physical Therapy, Stanford University.

Miss Williams is the author of several articles on the subject of muscle action and is a co-author of the "Muscle Testing" manual. Miss Williams' subject at the Congress will be "Manual Muscle Testing: Development and Current Use."

DONALD V. WILSON (M.A., School of Social Service Administration, University of Chicago) is Secretary General of the International Society for The Welfare of Cripples; Chairman of the Conference of World Organizations Interested in The Handicapped; and Chairman, International Social Welfare Committee of the American Association of Social Workers.

Mr. Wilson was formerly Dean of The School of Applied Social Sciences, Western Reserve University, and a member of the faculty of the Graduate School of Social Welfare, Louisiana State University. During World War II, he served in Japan as Welfare Officer, Military Government Section, Eighth Army. For his work in Japan, Mr. Wilson was cited by General Douglas MacArthur "for outstanding performance of duties and exceptional judgment and leadership."

"Expanding Opportunities for the World Confederation for Physical Therapy" will be Mr. Wilson's topic on the Congress program.

Manhattan in a Nut Shell

"East side, west side, all around the town." Entertainment and financial center of the world, Manhattan is a complex metropolis of many moods and aspects, a city of unusual contrasts. Here dwell more than 8,000,000 persons, making up perhaps the most cosmopolitan population on earth. Some 40 different languages and dialects are spoken and are found in news print. City residents forget the legend that Peter Minuit gave the Indians $24.00 worth of trinkets for Manhattan and take for granted things at which visitors marvel—the subways, skyscrapers, museums, art galleries, night clubs, and theatres.

Making up part of the picturesque skyline at the foot of the Island is the world's renowned financial district, Wall Street. Here visitors may view from specially built galleries the excitement of the trading floor of the New York Stock Exchange which is the nation's largest organized securities market. Nearby, the Chase National Bank features an exhibit of more than 75,000 specimens of moneys that gives a complete picture of the first primitive forms down to coins and currencies of today in its Museum of Moneys of the World.

Contrast may be found in Greenwich Village which has been associated with art and literature for years. Colorful tea rooms, curio shops, night clubs and "off Broadway" theatres are an attraction but the highlight for many is the annual outdoor arts and crafts show which adorns the sidewalks during the summer months. Washington Square adds fame to the village and is the site of the triumphal Washington Arch which provides a gateway to Fifth Avenue, a street well known for its exclusive shopping district.

Located on Fifth Avenue is the pinnacle of the New York Skyline which is the tallest building in the world. The 102-floor Empire State Building has entertained more than a million sightseers who have been awed by the enormity of the view from its observation terraces. New York sky-

New York as seen by evening visitors from the upper stories of the RCA Building. The darkened areas mark some of New York's famous waterways, and the Empire State Building, as always, dominates the scene.

Courtesy of the American Airlines

STATUE OF LIBERTY

"Give me your tired, your poor,
Your huddled masses yearning to breathe free,
The wretched refuse of your teeming shore.
Send these, the homeless, tempest-tost to me,
I lift my lamp beside the golden door."

From the sonnet by Emma Lazarus which is inscribed on the base of the statue.

scrapers are among the marvels of the world and there are as many as 50 such buildings of distinction. The Chrysler Building with its needle-like spire rivals the Empire State Building with its 77 stories. Old buildings, as well as new, will stimulate the visitor's interest. Among the many will be Carnegie Hall, the home of the New York Philharmonic Orchestra, the Metropolitan Opera House and the New York Public Library which is the center of the largest public library system that exists. Of interest to all and where world history is in the making is the United Nations Building. The Secretariat, a 39-story skyscraper, and the General Assembly Building are striking examples of contemporary architecture designed by an international team of architects. Opportunity is available for those who wish to take guided tours or to attend meetings.

"The city within a city," Rockefeller Center, is composed of 15 buildings of which the 70-story RCA Building's slim beauty rises as the central theme of this development. Radio City Music Hall with a seating capacity of 6,200 is the world's largest indoor movie and the home of the precisioned dancing Rockettes. For those interested in peeping "behind the scenes" of modern radio or television or investigating the wonders of electronics, guided tours bring knowledge and entertainment.

Education and culture cannot be overlooked in this city of wonders. The collections of the Metropolitan Museum of Art are the most extensive in the Western Hemisphere. Most important of its recent acquisitions is the stunning Medici Venus, the counterpart of the Venus de Milo. The Cloisters, a branch of the Museum, is devoted to medieval art with its greatest attraction being the "Hero" tapestries and the chalice of Antioch. The American Museum of Natural History is one of the largest institutions devoted to natural science exhibits, including the origin of man and the 60,000,000 year-old dinosaur eggs. Among others are the Museum of Modern Art, the Whitney Museum, and the Guggenheim Museum that house changing exhibitions of contemporary art; the Museum of Science and Industry, and the Museum of the New York Historical Society. The well-known Frick Museum specializes in 14th to 19th century paintings and French 18th century furniture. For those interested in American lore there is the American Geographical Society and the Museum of the American Indian. There are 37 institutions of higher education which include 5 medical schools, 13 general colleges and universities and 4 schools of theology.

Also contributing to the rich and varied cultural life in the city are the more than 2,500 churches which fulfill the religious needs of every denomination. Among them are the Cathedral of St. John The Divine which when completed will be the largest Gothic cathedral in America; St. Patrick's Cathedral, one of the finest examples of modified Gothic architecture; the oldest Jewish congregation in America founded in 1634 at the Spanish and Portuguese

Synagogue; the Little Church Around the Corner, scene of the weddings of many famous people; Riverside Church, nondenominational, whose major architectural inspiration came from Chartres Cathedral in France; and St. Paul's Chapel, the oldest public building remaining in New York, with its Georgian style designed after the manner of Wren's plans for St. Martin's-in-the-Fields, London. George Washington worshipped here when the national capitol was located in New York.

"Tripping the light fantastic!" The heart of Manhattan and the hub of the theatre and entertainment district is Times Square. Times Square by day and "The Great White Way" by night, when advertising signs and flashing theatre marquees transform the square into a brilliance beyond imagination. The prelude to Times Square is the famous Forty-Second Street, "The Cross Roads of the World."

Busy New Yorkers find pleasant moments of relaxation in Central Park which is located in mid-Manhattan. Its 840 acres contain gardens, flower arbors, lakes, sculpture, bridal paths, and playgrounds. Other park attractions include a zoo and an outdoor skating rink. Music fills the summer air with selections from opera to jazz here as well as in other spots such as Lewisohn Stadium, Battery Park, and Washington Square Park.

Contrasts of the city are many and varied. Three major baseball clubs call New York home plate and many other sports, public affairs, and elaborate entertainment will be found in Madison Square Garden which seats 20,000 persons. For the astronomer there is the Hayden Planetarium where in the "Theatre of the Stars" the sky can be reproduced upon a 75-foot hemispherical dome as it is today, as it was in the past, or as it will be thousands of years from now.

Not to be overlooked is the majestic Statue of Liberty that extends a proud welcome to all who come. This huge figure by Bartholdi of "Liberty Enlightening the World" was presented to the United States by France in 1884 and means much not only to this city of cities but to all people as a way of life.

New Student Members

Boston University

Virginia Snively

Bouvé-Boston School

Julia Barrows
Yvonne U. de Beaulieu
Annette Eysaman

Childrens Hospital

Ronald E. Bell
Idora M. Bickel
Grace Bungo
Lois A. Conway
Floyd C. Forrand
David H. Hiatt
Jean Igasaki
Kay Johnson
Beverly Paquet
Betsy Rosselot
Suzanne H. Roth
Marilyn Strickland
Robert Swisher
Virginia F. Turner

Cleveland Clinic

Robert Arledge
Ethelyn Cisco
Marlene Davis
Karen L. Erdmann
Patricia Grace
Thoral Mitchell
Laura Powers
Cora L. Reynolds
Alice Roth
Jean Saufley
Alice B. Schmitt
M. Elizabeth Shannahan
Dorothy Spooner

College of Medical Evangelists

Kenneth Slawson
Ella M. Weber

Columbia University

Sonia Bontemps

Duke University

Arlin Breck
Judith G. Clark
Barbara Compton
Judith Coryell
Grace J. Eaton
Faith L. Gehweiler
Betty Graham
Howard W. Hunter
Unni Kjosnes
John Lewis
Marjorie H. Melchiskey
Helen P. Moore
Alice Severance
Janice Smetana
Nanette Starling
Hollis Strong
John H. Sykes
George K. Wolf

New York University

Ruth Alampi
Gale Allen
James Chan
Joan Chasnon
Karen Hecht
Michael Helland
Carolyn Henig
Feraydoon Khani
Irving Kronenberg
Harvey Margolin
Katherine Simmons
Sister Joseph Mary O. Carm.
Merelyn Trupin

Stanford University

Wallace Boe
Margaret Clark
Sarah Coffin
Frank W. Cumbo
P. Patricia Elmer
Doris Fallquist
Rosalie Smith
Takumi Taketa Jr.
Frieda J. Tannenbaum

University of Connecticut

Vera Kaska
James La Versa
Joseph R. Portelance
Anna Stoughton

University of Iowa

Robert L. Peterson

University of Oklahoma

Jane Ard
Jeanne Brandon
Carolyn Noell

University of Pennsylvania

Louise Hardy
Robert Heisler
Dorothy Jackson
Helen James
Rhoda Marks
Eileen Putek
Walter Rice
George Sparks
William Speciale
Lartha Sykes

University of Wisconsin

Joan Biason
Kay Comer
Eleanor Evenson
Beverly S. Hanes
Nancy M. Hart
Elsie Juhl
Elizabeth Lucas
Janice Miller
Harry S. Quay
Sherrill Winks

Washington University

James W. Barbero
Jo Ann Browning
Mary Jo Farr
Sally Farrand
Joyce Ijams
Harriett Kraemer
Sharon R. Mahon

Short Term Courses

Columbia University

Name of Course

Postgraduate Cerebral Palsy Courses

Sponsor of Course

Columbia University

Dates of Course

Physical Therapists', Occupational Therapists', and Nurses' Course — April 16–June 15, 1956

Course Content

Lectures, demonstrations, and seminars covering medical management, basic science review and psychosocial aspects, as well as clinical experience in all types of facilities.

Tuition

Physical Therapists', Occupational Therapists', Speech Therapists', and Nurses' Course — $210.00 (8 points credit)

A list of scholarship sources will be sent on request. For further information address:

Office of the Dean
Columbia University College of
Physicians and Surgeons
630 West 168 Street
New York 32, N. Y.

Counselor Training Program

Alpha Gamma Delta and the National Society for Crippled Children and Adults will jointly sponsor the ninth such course for individuals concerned with counseling, vocational training, and placement of the physically handicapped and for guidance teachers and school administrators.

Name of Course

Counselor Training Program

Sponsor of Course

Alpha Gamma Delta and the National Society for Crippled Children & Adults

Dates of Course

June 18 to July 13, 1956

Location

Institute of Physical Medicine and Rehabilitation
N.Y.U.-Bellevue Medical Center
400 East 34 St.
New York, N. Y.

Course Content

Lectures and demonstrations in aspects of physical rehabilitation such as activities of daily living, ambulation, self-help devices; technics in evaluation of the psychological, psychiatric, social, educational and vocational assets of the disabled individual; prevocational exploration of these potentialities; methodology in treatment, therapy and counseling. The facilities of other rehabilitation centers, hospitals, vocational and specialized training centers, and sheltered workshops in the New York City area will be utilized.

Credit

Six hours graduate credit will be granted by the School of Education of N.Y.U.

Fees

Approximately $160.00

Financial Assistance

Fellowships are offered by Alpha Gamma Delta in cooperation with the National Society for Crippled Children & Adults.

For further information on course and fellowships contact:

Personnel and Training Service
National Society for Cripoled Children & Adults
11 South La Salle St.
Chicago, Illinois

University of Pennsylvania

The following courses for physical therapists are sponsored by the U. S. Office of Vocational Rehabilitation. A limited number of traineeships covering the fees and part of the living expenses will be available through the U. S. Office of Vocational Rehabilitation.

Name of Course

Organization, Administration and Supervision

Dates of Course

February 13 through 24, 1956

Course Content

Course emphasizes administration as a necessary function of every physical therapist and deals with the responsibilities of the physical therapist as a staff member, supervisor and/or director. Existing problems will be examined and their prevention and solution explored through the use of standard administrative technics and practices. Areas of study will include: job analysis, supervisory and teaching methods, communications, and budget preparation.

Tuition

$25.00

Name of Course

Rehabilitation of the Handicapped

Dates of Course

March 5 through March 30, 1956

Course Content

Present concepts in rehabilitation such as: pertinent legislations, community resources, responsibilities of all disciplines in patient care, use and interpretation of tests and measurements, self care and daily skills, and assistive devices will be covered. New trends and developments in medical care and physical therapy procedures will be emphasized. Clinical demonstrations will be given and clinical practice opportunities will be made available to enrollees.

Tuition

$37.50

Name of Course

Principles of Rehabilitation

Dates of Course

February 6 through 10, 1956
April 2 through 6, 1956
June 25 through 29, 1956

Course Content

The understanding and application of basic concepts of rehabilitation as they apply to patient care with emphasis on the term approach and the responsibility of each member of the group for integrated care.

Tuition

No tuition fee

For further information and application address:

The Director, Division of Physical Therapy
1818 Lombard Street
Philadelphia 46, Pennsylvania

Applications must be received at least three weeks before the beginning of the course.

Boston University Sargent College

The Boston University Sargent College, Department of Physical Therapy announces an Introductory Course in Neuromuscular Facilitation Techniques to be given under the direction of Margaret Knott, Head Physical Therapist, California Rehabilitation Center, from June 25, to July 6, 1956.

The course will include instruction in the theory and practice of technics, and an analysis of muscle function in patterns of facilitation. Opportunity will be given for practice under supervision and observation of treatment procedures. The course may be taken for two semester hours credit at a cost of $40.00, or it may be taken without academic credit at a cost of $30.00. Room and breakfast will be provided in the college dormitory for $26.00.

The closing registration date will be June 1, 1956. Registration will be limited to 20 qualified physical therapists who are members of the American Physical Therapy Association, or of member associations of the World Confederation for Physical Therapy. Students will be selected as applications are received, but the right to select students on a geographical basis is reserved. Students should wear slacks. Each registrant will be sent mimeographed material for study before the course begins.

Those interested should apply to Professor Adelaide L. McGarrett, Physical Therapy Director, Boston University Sargent College, 6 Everett Street, Cambridge 38, Massachusetts. Please indicate whether or not academic credit is desired, and whether room and breakfast are desired.

Physical Therapy Colors for Academic Hoods

At the request of the schools, the Association has established official Physical Therapy colors for academic hoods to be worn at graduation exercises and other academic processions. Our colors are very distinctive and unique: white (arts) and gold (science) bands, parted with a green (medicine) cord. The usual pattern is a single band of a solid color. The hood is lined, as is the custom, with the school's color.

Only candidates for or recipients of degrees in physical therapy are eligible to wear these colors. Hoods are available for purchase through the Collegiate Cap and Gown Company, 366 Fifth Avenue, New York 1, New York.

FUTURE PHYSICAL THERAPIST

This picture of Patricia Jane Gibson, senior physical therapy student at the University of Wisconsin, was taken at Corno Park at the National Speed Skating races at the St. Paul Winter Carnival in January, 1955. She had just won all 5 races in the Senior Woman's Division and had tied the National record of 20.2 seconds in the 220 yard event.

Miss Gibson is the current North American Women's Speed Skating Champion, winning 4 of 5 races at Saranac Lake, New York, in February, 1955. She is also an excellent canoeist and water skier.

New Booklet on Rheumatic Fever

Information for parents on rheumatic fever in children is contained in a booklet, "The Child with Rheumatic Fever" issued by the Children's Bureau, U. S. Department of Health, Education, and Welfare.

The bulletin places particular emphasis on prevention through early diagnosis and treatment by a physician. It also helps parents to understand the importance of the child's convalescence, and suggests ways to keep him interested during the time he must spend in bed.

The bulletin is one of a series prepared by the Bureau for parents whose children have handicapping conditions. It is available from the Superintendent of Documents, Government Printing Office, Washington 25, D. C., for 10 cents a copy.

Correction

We regret that the authors of the article, "Physical Therapy in Community Agencies," which appeared in the January 1956 issue of the Physical Therapy Review, were incorrectly listed. The authors who condensed this report were Clara Arrington, Emily Mueller and Louise Bailey.

Miss Bailey is Physical Therapy Consultant, National Society for Crippled Children and Adults, Chicago.

Short Term Course

Title of Course

Physical Medicine and Rehabilitation for the Arthritic Patient

Sponsor of Course

American Rheumatism Association
Arthritis and Rheumatism Foundation
U. S. Office of Vocational Rehabilitation

Location of Course

Institute of Physical Medicine and Rehabilitation.
New York University—Bellevue Medical Center
400 East 34th Street
New York 16, New York

Dates of Course

March 12 to 30, 1956

Admission Requirements

Graduates of A.M.A. approved schools — preference will be given to physical therapists actively engaged in treatment of arthritics, and those holding teaching positions.

Course Content

Intensive and comprehensive review of the field with special emphasis on newer and more recent developments in treatment and rehabilitation technics. Lectures, demonstrations, practice classes and field trips to selected arthritis clinics will be included.

Traineeships

Grants in the amount of $50.00 per week (total of $150.00 for each individual) are available for participants needing financial assistance.

For application and further details contact

Edward W. Lowman, M.D.
Clinical Director
Institute of Physical Medicine and Rehabilitation
400 East 34th Street
New York 16, New York

General News

New VA Program for Chronically Ill Veterans

Long-term veteran patients, some hospitalized 20 years or more, will be concentrated in special sections of Veterans Administration hospitals for a new program of "all-out" specialized treatment to promote their recovery or to prevent further loss of body and mind functions.

Termed an advanced concept in the care of chronically ill veterans, the intermediate program, as it is known, is underway in 30 VA hospitals and will be expanded to others as rapidly as they qualify, Dr. William S. Middleton, Chief Medical Director, said.

Dr. Middleton explained that the functions of the program is to provide active rather than custodial care for those long-term patients in the VA hospital system who no longer need definitive hospital treatment, cannot return home, and lack the capabilities necessary for the new planned-living program in VA domiciliaries.

Specially qualified staffs interested in the care of such patients are required to man these sections, Dr. Middleton said. In addition, the entire hospital staff will be available for consultation or for specialized treatment.

For each long-term patient in the section, a planned maintenance rehabilitation program will be instituted immediately to retain the benefits of hospital care already given and to prevent the development of disabilities resulting from physical inactivity.

The section staff will gear a planned activity program to each patient's capacity and need for recreational, spiritual, and social activities to prevent mental regression and social isolation.

Periodic reviews will be made of each patient's rehabilitation progress with the objective of planning for his discharge when that is indicated.

The program first underwent extensive tests in five combination hospital and domiciliary centers. When these tests proved successful, the program was expanded to the 30 hospitals now using it.

Dr. Middleton recently instructed all VA hospitals to consider the establishment of the intermediate program, based on patient need and other requirements.

Dr. Middleton said much still must be done to develop detailed procedures of operation for the intermediate sections on a nation-wide basis. He expects refinements and improvements to develop from further experience in caring for the chronically ill patients under this concept.

A study recently completed indicates that 4,282 long-term patients in VA hospitals already meet the criteria for admission to these specialized sections in general medical and surgical hospitals and that 3,917 domiciliary members also are eligible and would be benefited by the increased medical care afforded in such sections.

The problem of caring for the aging and chronically ill patients in VA hospitals has been under special study for several years. The current program has resulted from these studies and experiences.

The need to develop suitable long-range plans to cope with this problem is inherent in the present veteran population of 22,000,000, according to Dr. Middleton, since a considerable number will eventually require long-term hospital care. He said 584,000 veterans now are 65 years of age, but only five years hence the number is expected to exceed 1,780,000.

The average age of the 110,000 veterans in VA hospitals is 48, in comparison with the average of 38 years for the veteran population as a whole. Approximately 10,000 VA patients are over 65.

Also to be considered in relation to the problem of aging veterans is the chronicity of disease and its effect on length of hospital stay, Dr. Middleton said. He explained that approximately 34,000 of VA's current load of 110,000 patients have been hospitalized for more than five years, with some 9,000 of the 34,000 having been hospitalized for 20 years or more.

Because of this existing load, Dr. Middleton said, the intermediate program for the present will be primarily restricted to patients and domiciliary members already in the VA hospital and domiciliary system.

Dr. Middleton said that because the basic function of the intermediate sections is to provide active rather than custodial care for patients who no longer need definite hospital treatment, these specialized sections will improve patient care, directly and indirectly, with a saving in scarce category personnel.

Physical Therapy Programs—1956

APPROVED BY THE COUNCIL ON MEDICAL EDUCATION AND HOSPITALS OF THE AMERICAN MEDICAL ASSOCIATION

Schools offering the four year program leading to a baccalaureate degree will accept high school graduates, *as well as transfer students.* Schools offering the 12 to 16 months program leading to a certificate will accept students who have completed all or most of their undergraduate work providing they meet certain course requirements. Recipients of a degree or certificate have equal professional recognition and status. For specific information regarding each school's entrance requirements, tuition, and other fees, please write to the director indicated below. All students should investigate course requirements *early.*

	Degree	*Certificate*
CALIFORNIA		
Mrs. Mary J. Dodge School of Physical Therapy Childrens Hospital Society 4614 Sunset Boulevard Los Angeles 27		†
Mr. R. William Berdan School of Physical Therapy College of Medical Evangelists 312 N. Boyle Avenue Los Angeles 33	†	†
Mrs. Margery L. Wagner Curriculum in Physical Therapy University of California The Medical Center San Francisco 22	†	†
Miss Charlotte W. Anderson Department of Physical Therapy University of Southern California University Park Los Angeles 7	†	†
Miss Lucille Daniels Division of Physical Therapy Stanford University Stanford	†	†
COLORADO		
Miss Dorothy Hoag Curriculum in Physical Therapy University of Colorado Medical School Denver 20	†	†
CONNECTICUT		
Miss Frances Tappan School of Physical Therapy U 101 University of Connecticut Storrs	†	
ILLINOIS		
Miss Elizabeth C. Wood Course in Physical Therapy Northwestern University Medical School 303 East Chicago Avenue Chicago 11	†	†
IOWA		
Mrs. Olive C. Farr School of Physical Therapy State University of Iowa University Hospitals Iowa City		†
KANSAS		
Mrs. Ruth G. Monteith Section of Physical Therapy University of Kansas Medical Center Kansas City 3	†	†
LOUISIANA		
Miss Marjorie F. Martin School of Physical Therapy Charity Hospital of Louisiana 1532 Tulane Avenue New Orleans 12		†
MASSACHUSETTS		
Miss Shirley M. Cogland *School of Physical Therapy Simmons College-Children's Hospital 300 Longwood Avenue Boston 15	†	†
Miss Adelaide L. McGarrett Curriculum in Physical Therapy Sargent College, Boston University 6 Everett Street Cambridge 38	†	†
Miss Constance K. Greene Curriculum in Physical Therapy *Bouve-Boston School, Tufts College Medford 55	†	
MICHIGAN		
Miss Virginia Wilson Curriculum in Physical Therapy University of Michigan University Hospital Ann Arbor	†	†
MINNESOTA		
Mrs. Ruby M. Overmann Course in Physical Therapy University of Minnesota 860 Mayo Memorial Hospital Minneapolis 14	†	
Mr. Darrell D. Hunt School of Physical Therapy Mayo Clinic Rochester		†

* Accepts women students only

	Degree	Certificate
MISSOURI		
Sr. M. Imelda, S.S.M. Course in Physical Therapy St. Louis University 1325 South Grand Boulevard St. Louis 4	†	
Miss Beatrice F. Schulz Department of Physical Therapy University of Washington, School of Medicine St. Louis 10	†	
NEW YORK		
Miss Dorothy L. McLaughlin *School of Physical Therapy Albany Hospital-Russell Sage College New Scotland Avenue Albany 1	†	†
Miss Mary E. Callahan Courses for Physical Therapists Columbia University College of Physicians & Surgeons 630 West 168th Street New York 32	†	†
Miss Elizabeth C. Addoms Physical Therapy Curriculum School of Education, New York University Washington Square East New York 3	†	†
Miss Mildred F. Heap Program in Physical Therapy University of Buffalo 2183 Main Street Buffalo 14	†	†
NORTH CAROLINA		
Miss Helen Kaiser Division of Physical Therapy Box 3403, Duke Hospital Durham		†
OHIO		
Miss Dorothy Spark Course in Physical Therapy Frank E. Bunts Educational Institute 2020 East 93rd Street Cleveland 6		†
OKLAHOMA		
Miss Thelma Pedersen School of Physical Therapy University of Oklahoma, Medical Center Oklahoma City 4	†	†
PENNSYLVANIA		
Miss Kathryn Kelley Curriculum in Physical Therapy D. T. Watson School of Physiatrics Leetsdale		†
Miss Dorothy E. Baethke Division of Physical Therapy University of Pennsylvania 1818 Lombard Street Philadelphia 46	†	†
PUERTO RICO (All classes given in Spanish)		
Mrs. Lutgarda Vega de Cruz School of Physical & Occupational Therapy Professional Bldg., 8th floor Stop 22, Santurce		†
TEXAS		
Miss Doris E. Porter Grady Vaughn School of Physical Therapy Baylor University Hospital Dallas 1		†
Miss Ruby Decker Curriculum for Physical Therapists University of Texas, Medical Branch Galveston	†	†
Mrs. Cecelia J. Lee School of Physical Therapy Hermann Hospital Houston 25		†
VIRGINIA		
Miss Susanne Hirt School of Physical Therapy Medical College of Virginia Richmond 19	†	
WISCONSIN		
Miss Margaret Kohli Course in Physical Therapy University of Wisconsin Madison 6	†	†
U. S. ARMY MEDICAL SERVICE		
*Physical Therapy Course Medical Field Service School Brooke Army Medical Center, Fort Sam Houston, Texas and Brooke, Letterman and Walter Reed Army Hospitals Write to: The Surgeon General Department of the Army Washington 25, D. C. Att.: Personnel Division		†

*Accepts women students only.

Please direct all inquiries regarding tuition, entrance requirements and other specific information to the school and *not* to the American Physical Therapy Association.

Abstracts

The Importance of Rehabilitation in Thoracic Surgery.

Albert Haas and Howard A. Rusk, AM. J. SURG., 90:660-664, October 1955.

Medical and surgical therapy for diseases of the chest have made rapid gains in the past, but even the finest thoracic surgery leaves serious mutilating residue, anatomic, physiologic and psychologic. The chest surgeon cannot overlook the necessity of obtaining maximum possible rehabilitation of the (1) operative area, (2) related joints, (3) functional efficiency of the whole body, and (4) mental attitude.

When the chest wall is opened, the large muscles of the back which are vitally important in trunk balance and shoulder stability are severed. The trapezius, rhomboids, latissimus dorsi, and serratus anterior are usually sectioned and although repaired are still followed by varying degrees of progressive structural scoliosis and consequent disfigurement. With the muscles of the involved side anatomically and physiologically impaired, the contralateral muscles become disproportionately stronger, pulling and twisting the skeleton into deformity. Furthermore, operative trauma leaves fibrosis, matted soft tissue, atrophy, and pain all of which contribute to dysfunction, malposition, and ankylosis of varying degrees.

In addition to control and cure of the basic disease the objectives for thoracic surgery patients include: (1) minimizing of postoperative disability and deformity and (2) reestablishment to a maximum possible degree of muscle function and range of motion. As in all disabilities, rehabilitation care is the vital and indispensable third phase of medicine.

In the past five years at Bellevue Hospital a carefully planned routine rehabilitation program for thoracic surgery patients has been carried out. The results obtained show that with corrective measures scoliotic deformity and fibrotic ankylosis can be minimized.

The program was divided into two phases. During the preoperative period the objective was to teach the patient the basic exercises necessary following surgery. In the postoperative period the exercises were performed which included diaphragmatic breathing, postural exercises, and other basic exercises for the scapulohumeral mechanism. The exercise program should be started at least one week before operation and resumed in a progressively graded form not later than 24 hours after surgery. The exercises themselves are divided into passive, active-assistive, active and active resistive forms. Posture mirrors should be used.

The Bellevue Hospital routine of exercises is outlined in the paper.

The Latissimus Dorsi Syndrome.

R. J. Dittrich, Ohio State M. J., 51:973-975, October 1955.

A symptom-complex characterized by pain in the upper portions of the body and designated as the "latissimus dorsi syndrome" is described in this article. The underlying mechanism is one of referred pain and referred tenderness in which the impulses arise from a primary source or trigger point and are experienced in another somatic structure which is innervated by the same spinal segmental nerves. In this particular disorder, the noxious stimuli originate from an irritation of portions of the aponeurosis of the latissimus dorsi muscle in the midlumbar region over the lateral portion of the sacrospinalis muscle. The vulnerability of this site is due to the anatomic arrangement of attachment of a portion of the latissimus dorsi muscle to the lumbodorsal fascia.

The mechanism of transmission of impulses can be verified by local anesthetization of the site of origin of the pain. As the latissimus dorsi receives its nerve supply from the sixth, seventh and eighth cervical nerves, the distribution of referred phenomena would be within these nerve fields.

When the diagnosis of this mode of pain reference is established, surgical correction is indicated; this consists of resection of a narrow strip of the aponeurosis of the latissimus dorsi which arises from the lumbodorsal fascia above the level of the irritation.

The most difficult diagnostic problem with this syndrome is its differentiation from a painful disorder of the trapezius muscle which also presents symptoms of pain and tenderness in the cervicodorsal and suprascapular regions.

Vascular Changes in Poliomyelitis and the Effect of Sympathectomy on Bone Growth.

R. H. Goetz, J. G. DuToit and B. H. Swart, ACTA MED. SCANDINAV., 152: (Suppl. 306), 56-83, 1955.

The problem put forth in this paper is twofold: (1) what is the underlying pathology of the circulatory disturbance in poliomyelitis, and can it be improved by sympathectomy? (2) Can sympathectomy, by improving the circulation, be expected to hasten the growth of bones so as to reduce the shortening expected in a paralyzed limb.

Twenty-six cases were chosen for this study, most of whom showed a severe degree of muscular paralysis in one leg, and a normal contralateral limb. Continuous records of the peripheral circulation were obtained with the optical digital plethysmograph. Skin temperature was measured by means of a mirror galvanometer and thermocouples. All observations were made under uniform conditions.

It was found that three factors were involved in the circulatory disturbances to be seen in cases of polio: (A) lack of stimuli normally promoting an efficient circulation and absent by virtue of the paralysis; (B) interference with sympathetic innervation probably caused by destruction of ganglion cells in the lateral horn; (C) Organic arterial disease, i.e., hypoplasia of the arteries in the paralyzed limb. Not all three factors are necessarily operative in each case and in some cases it was shown that the circulation was completely normal.

The interference of the sympathetic pathways may involve not only the vasomotor but also the sudomotor fibers. In this series of patients the onset of sweating (as a response to heating) was delayed in the paralyzed limb. The intensity of sweating was less in the legs than in the face. The sweating pattern was abnormal in 50 per cent of the cases. There can be no doubt that thermoregulatory sweating is disturbed in many cases of polio and as there is no local cause, the syympathetic sudomotor pathways must be involved in a large number of cases. However, no conclusions could be drawn from the involvement of the sympathetic innervation as to what degree of interference of the vasomotor system would concern the integrity of the sudomotor fibers.

In the past, no support was forthcoming from animal experiments to show that sympathectomy could improve the circulation through the

hind leg or increase the rate of growth of bone. It was demonstrated here that the rate of warming following cooling of an extremity afforded a means of demonstrating the effect of sympathectomy on the blood vessels in the animal.

It was further shown by these authors that there is no basic difference in the vascular response to lumbar sympathectomy in animals and humans. The differences heretofore reported have been only the result of the particular postural attitudes of the animal and the fact that the limb is covered with thick fur preventing the dissipation of heat. Once these factors are eleminated, the effects in man and animal are identical.

Evidence is presented that, provided sympathectomy is complete, it will increase the rate of growth of bone in the hind paw of the rabbit. The percentage increase in lengthening from sympathectomy in animals, compared favorably with the lengthening observed in human cases of congenital arteriovenous fistula.

The implication of these findings on the treatment, both of the circulatory disturbances and the expected shortening of the limb is obvious. Factors indicating and contraindicating sympathectomy following poliomyelitis are discussed.

Speech and Respiratory Impairments and Related Therapies in Cerbral Palsy.

Marvin L. Blumberg, BRIT. J. PHYS. MED. 18:215-219, October 1955.

Cerebral palsy is the term applied to a group of neuromuscular disorders in which peripheral motor functions are affected as a result of central brain damage.

Most cases occur from birth injuries or cerebral hemorrhage which usually cause spastic muscular dysfunction, and from cerebral anoxia which commonly produces athetosis. The generalized incoordination of body effort and function in cerebral palsy frequently affects speech and respiration. This is especially true in athetosis.

The development of speech is dependent upon physical, mental, emotional and social factors. Athetoids show greater speech problems both in the number of cases and in the severity of involvement than do the spastics. Adequate respiratory function is an important aspect of speech. Irregularities of rate, rhythm, and depth of respiration occur more frequently in athetoids than in spastics.

Speech therapy in cerebral palsy is directed toward the teaching of complicated psychosocial and physical functions which include development and training of the primitive reflexes which are precursors to speech.

Respiration training should be directed towards modifying the existing involuntary mechanism and toward utilizing the voluntary cerebral controls, thereby improving the rate, rhythm, and depth of breathing.

Considerations in the Surgical Treatment of Pectus Excavatum.

Gustaf E. Lindskog, and Warren L. Felton, AM. SURG., 142:654-661, October 1955.

The purpose of this paper is to summarize the findings and results of surgical therapy in 16 cases of pectus excavatum (funnel chest), and to draw attention to some details of importance in securing a satisfactory end result. Poor posture was noticeable in every case. The funnel chest deformity followed a regular pattern—the depression of the sternum beginning at the level of the manubriogladiolar junction and maximum at the level of the xiphoid process. Paradoxical movement of the sternum during deep respiration was noticed in several of the younger patients. A cardiac murmur was audible in 11 cases before surgery. Radiographic examination of the chest revealed in every instance some degree of cardiac displacement to the left side.

The details of the operative technic and the postoperative management are described. These consist mainly of a resection of the third to seventh costal cartilages bilaterally, the freeing of the sternum, a wedge osteotomy of the sternum, and the elevation of the sternum by wire traction to a position of slight overcorrection. The traction wires are attached to a malleable metal strip, previously fitted to the patient's chest contour.

Full ambulation and physical therapy are begun on the first or second day after surgery. Well directed physical therapy has much to do with obtaining a normal or near normal appearing chest contour and an improved posture.

The Exposure Method of Burn Treatment.

C. E. Wilson, K. F. Kimball and S. A. Swenson, ARCH. SURG., 71:424-430, September 1955.

The treatment of burns by the exposure method or the open air technic as compared to the closed or pressure dressing method is discussed. The exposure method was first described in the literature in 1887, but the mass burn casualties occurring in wars and disasters have stimulated new interest in this way of burn treatment.

The authors, who have encountered some problems and difficulties with the closed method, for the past three years have been using the open air treatment on 50 patients with second and third degree burns. The initial management of the acute burn is the same as that used previously. The critical stage of burn shock, fluid, electrolyte and blood loss is cared for. When indicated, the burns were washed with hexachlorophene soap solution and saline irrigation.

The patients were then placed so that the burned areas were exposed to air at room temperature with particular care to avoid drafts. After 72 hours the burned areas developed an eschar of coagulated serum that was firm, dry and adherent. There was minimal need for analgesia after this occurred. The crust was maintained in a dry state. If possible, the patients became ambulatory. An effort was made to prevent cracking of the eschar. If necessary, a thin coating of sterile ointment was used over joints. If infection occurred, débridement of devitalized tissue was done, followed by daily soaks in hexachlorophene solution. After a suitable period of time, averaging 21 days for the third degree burns, skin grafting was begun. Pressure bandages were used postoperatively.

The advantages of the exposure method are: (1) large numbers of burn patients can be treated with less demand on supplies and staff; (2) frequent observation of the wound is possible; (3) there is reduction of secondary infection and maceration; (4) pain and offensive odors are reduced.

Contraindications to this method are: (1) extensive circumferential burns that cannot be entirely exposed, (2) small burns that can be bandaged and the patient then dismissed, and (3) patients who need to be transported.

Myasthenia Gravis.

F. R. Ferguson, E. C. Hutchinson and L. A. Liversedge, Lancet, (No. 6891), 636-639, September 24, 1955.

The relative values of the treatment of myasthenia gravis with thymectomy and drugs have been widely discussed in the literature. This study is primarily a survey of 75 cases of the disease treated conservatively with medications. The cases were those seen from 1932 to 1954 at the Manchester Royal Infirmary. Medical treatment was comprised mainly of the administration of optimal doses of neostigmine or pyridostigmine.

The 75 patients were followed for an average of 10 years. Of this number, 60 patients were still alive and reexamined in 1954. Thirty-nine of the survivors were women and 21 were men. An attempt was made to evaluate the functional status of these patients. Forty-two were doing full time work while others were restricted in their working capacity or were totally unable to work. The patients were assessed clinically to determine if the myasthenia was restricted to the ocular muscles or if the disability was generalized. Of the 75 patients, the disorder had remained confined to the ocular muscles in 27 cases. In such cases even though the ocular myasthenia may have been locally severe, ptosis or even diplopia did not gravely incapacitate the patients.

It was concluded that patients with myasthenia gravis should first be treated with neostigmine. If after a period of 2 to 3 years the condition remains confined to the ocular muscles, it may remain so and, therefore, thymectomy is not justified.

The Lumbar Intervertebral Disc Disease Syndrome: Clinical Correlation of One Hundred and Seventy-Five Cases.

W. Eugene Stern, West. J. Surg., 63:647-653, October 1955.

An analysis has been made of 175 patients suffering from the clinical syndrome of lumbar intervertebral disc disease. This analysis correlates those findings which occurred with the greatest frequency, in an effort to determine the presence or absence of a common denominator by which more accurate diagnoses may be made.

In the majority of cases, patients demonstrated back pain, leg pain, limitation of back mobility, limitation of straight leg raising, and neuroparalytic phenomena. In lieu of one or more of these major items, almost every patient who did not conform to the common picture showed findings of sufficient value to permit diagnosis. However, it was not possible on the basis of clinical examination to distinguish with certainty between those patients who suffered root compression from disc disease and those who suffered root compression from other causes. It was also impossible to separate the patients who suffered from the syndrome of leg and back pain but did not have root compression from those who did suffer root compression.

Almost without exception the authors found back or leg pain present, or a clear history thereof, as well as evidence of some nerve root involvement, as detailed by deficiency of function or aggravation of symptoms by nerve root stretch. In the absence of these findings the diagnosis of herniating intervertebral disc was rarely made.

Myelography was used as an adjunct in diagnosis and was performed in all but one of the 175 subjects. There were two false-positive myelograms associated with disease at a given cord level. Negative studies were more frequent.

The Effect of Breathing Exercises in Pulmonary Emphysema.

J. D. Sinclair. THORAX, 10:246-249, September 1955.

One of the few forms of treatment available for those who suffer from pulmonary emphysema is breathing exercises taught by physical therapists. Generally, these exercises aim at assisting active expiration, teaching general physical relaxation, and increasing the efficiency of respiratory work. The program requires much time and work on the part of both therapist and patient but there has been no accurate survey made of its effects.

In the present study 22 patients were investigated who showed clinical, radiological and physiological signs of emphysema, who had no other disease contributing to their disability, and who had not learned breathing exercises.

The patients were instructed in the exercises by a physical therapist and examined at intervals with regard to vital capacity measurements, maximal breathing capacity, maximum diaphragmatic excursion, and gas and blood analyses.

The 22 patients showed slight but not significant improvement in lung function after the course of breathing exercises. All showed marked improvement in maximum diaphragmatic excursion. Further analysis of 9 of the patients showed that the apparent increase in diaphragm excursion arose from diminished vertical movement of the chest wall; true diaphragm excursion was not altered by the treatment.

It was concluded that the only physical benefit of breathing exercises was in reducing inefficient spinal and shoulder girdle movement in respiration. The exercises, therefore, should be directed toward this end.

Plasma Fibrinogen in Chronic Neurological Diseases, with Special Reference to Disseminated Sclerosis.

Ib Persson, ACTA PSYCHIAT. ET NEUROL. SCANDINAV., 30:659-664, 1955.

Putnam has advanced the hypothesis that thrombi in the central nervous system produce the characteristic plaques in disseminated sclerosis. A rise in the plasma fibrinogen content facilitates thrombus formation. It has been shown that a rise in the plasma fibrinogen often occurs in disseminated sclerosis. The purpose of this paper is to decide whether the raised fibrinogen demonstrated could possibly play a part in the pathogenesis of the disease.

Plasma fibrinogen estimations were made on four groups of patients: (1) disseminated sclerosis, (2) chronic epidemic encephalitis, (3) other chronic neurological diseases, and (4) other chronic non-neurological diseases. The plasma fibrinogen was also estimated in (5) 50 normal persons. The results show a rise of the plasma fibrinogen not only in disseminated sclerosis, but also in other chronic neurological and non-neurological diseases, therefore this rise is not a characteristic of this disease. Consequently, the increase in fibrinogen is important only if in connection with special conditions, and should therefore be regarded as a sign accompanying the actual cause of the disease.

Research in Tuberculosis.

Esmond R. Long, AM. J. OCCUP. Therapy, 9: (Part II) 236-239, September-October 1955.

During the past 50 years the treatment of tuberculosis has gone through four fairly well defined epochs. (1) In the opening of the 20th century, the emphasis was upon outdoor activity for the purpose of compensating for the sedentary life believed responsible for the disease. (2) In the second decade there was an epoch of outdoor bed rest which constituted the main therapeutic regimen. (3) The third period was one of "collapse" therapy or pneumothorax in which emphasis was placed on resting the injured parts of the lung locally. (4) At the present time an epoch of chemotherapy and excisional surgery has gained ascendency.

The discovery of streptomycin in 1943 has paved the way for the present use of this drug in combination with other drugs such as paraaminosalicylic (PAS) and isonicotinic acid hydracide (isoniazid). Originally, the exclusive use of streptomycin proved unfavorable in that toxic effects were produced when administered in certain concentrations and the tubercle bacillus developed a tolerance to the drug's germ-inhibiting action. Subsequently, a combination of various drugs proved to be more effective.

Surgical excision of the diseased portion of the lung has gained prestige over thoracoplasty and pneumothorax. With the advances in drug therapy and anesthesia, localized tuberculous lesions can now be excised with little danger of spreading infection by operative manipulation.

While there have been many advances in the treatment of tuberculosis, there are still many problems that remain unsolved. The growth and reproduction of the tubercle bacilli in its human and laboratory environments present many perplexing differences. The virulence of the bacillus in the body has been a frustrating puzzle. Recent researchers have been concerned with the development of a vaccine and related procedures for tuberculosis. Another problem has been that of the correlation between hereditary resistance to the disease and certain hormones, such as cortisone.

Technics of measuring changes in pulmonary functions have been developed.

Treatment is now directed not only to the patient's present needs, but also toward a long-range program of returning the patient to a gainful occupation.

Back Pain Due to Loose Facets of the Lower Lumbar Vertebrae.

Arthur B. King, BULL. JOHNS HOPKINS HOSP., 97:271-283, October 1955.

One of the causes of sudden severe low back pain is the unattached facet. This derangement of the back usually produces episodic attacks of excruciating discomfort characterized by sudden onset and equally rapid relief of symptoms. The pain pattern, however, is not unique to this disorder. Six cases are presented in this paper which include the history, physical and operative findings, and differential diagnosis.

In the 6 cases described, all had the inferior facets separated from their adjacent lamina in the areas of L_4, L_5 or L_5. Developmental anomalies probably accounted for most of the derangements, although fracture should not be discounted in these cases.

Because roentgen studies of the back were "normal," vague and poorly understood entities of strains and sprains of the back were often utilized as diagnoses. Even hysteria and malingering were considered suitable explanations for some of the symptoms. Only the conviction that some definite but unknown mechanical defect existed, followed by surgical exploration of the low back, disclosed the cause of the symptoms.

Except for pronounced muscle spasm during episodes of acute pain, physical findings were few and unimpressive. One feature which appeared to separate this condition from other common back disorders such as herniated intervertebral disc, a spinal cord tumor, or a free neural arch, was the abruptness of onset and recession of excruciating back pain. Also, none of the patients in this series protested partially flexing the back in contradistinction to patients with a disc or free arch, both of whom find this maneuver painful and difficult.

The difficulty of arriving at a correct diagnosis preoperatively was discussed, especially the failure of x rays consistently to demonstrate the lesion. Simple excision of the loose facet appeared to constitute adequate treatment.

A plea was entered by the authors for a more thorough surgical exploration of patients with marked local low back complaints, despite "negative" x rays.

Rehabilitation of the Patient with Arterial Disease of the Limbs.

K. Harpuder, GERIATRICS, 10:451-455, October 1955.

The three types of peripheral arterial disease in which patients frequently present a rehabilitation problem are Raynaud's syndrome, thromboangiitis obliterans, and obstructive arteriosclerosis. Rehabilitation differs in each because the damage produced by the disease is different and because the personality of the patient varies characteristically in each one.

Rehabilitation in Raynaud's syndrome, which is spasm of the digital arteries and occurs upon exposure to cold and noxious stimuli, includes psychiatric evaluation and therapy as well as physical measures for treatment. Prophylactic measures include instructions in self-care after exposure to cold. Systematic range of motion exercises, facilitated by the application of heat, should be applied at the first signs of trophic skin changes. Social service workers and psychologists may be a great aid in detecting and removing the causes of noxious emotional factors in the patient, his home life, and work environment.

The patient with Buerger's disease (thromboangiitis obliterans) presents a more difficult rehabilitation problem. The disorder occurs almost without exception in smokers, and it is assumed to be due to a vascular sensitivity to tobacco proteins. The picture is one of a progressive mutilating disease with emotional disturbances becoming more overt as the condition continues. Psychiatric care is part of the definitive treatment. Physical rehabilitation should start early especially if trophic lesions are present and must include measures to prevent contracture as well as exercises for the uninvolved extremity. Care of the patient who has become an amputee follows the usual physical therapy programs for amputees.

Rehabilitation in obstructive arteriosclerosis is needed chiefly in the advanced cases which have ulcers

and gangrene. The program should include prevention of avoidable damage during the long periods of inactivity. The use of active and passive exercises for the lower extremity may aid in preventing phlebothrombosis. The social service worker should prepare the patient and his family for acceptance of and adjustment to the disability.

In all of these cases, when the patient is discharged from the hospital, he must receive detailed instructions in skin and nail hygiene, have careful attention given to his shoes and walking habits, and be followed by all services particularly in regard to social and vocational goals.

Pulmonary Function Before and After Resection of Tuberculous Lung Segments.

W. J. Taylor, J. B. Petter, and J. L. Whittenberger, AM. REV. TUBERC., 72:453-464, October 1955.

The purpose of this study was to determine the relationship between function change and the amount of lung tissue removed in resection of tuberculous lung segments. Changes in pulmonary function following uncomplicated lung resection are commonly believed to be proportionate to the amount of tissue removed. Various writers disagree as to the direction and degree of these changes.

Seventy-four patients who had unilateral resections varying from one segment to an entire lung were selected for this study. Ventilatory measurements, including maximum breathing capacity, walking ventilation, vital capacity, and bronchospirometry, were performed on all patients before and after surgery. It is recognized that the accuracy of these tests is limited by several factors, but in spite of these factors, it is apparent that most group averages were definitely altered by surgery.

The preoperative maximum breathing capacity values show a fair degree of uniformity. They were not proportionate to the number of segments removed or to the amount of pre-existing disease. The postoperative maximum breathing capacity was not changed when only one or two segments were resected; it was reduced approximately 15 per cent when three to five segments were removed; and was reduced by 21 per cent when a pneumonectomy was performed. Preoperative mean vital capacity measurements reflected the extent of pre-existing disease, but the postoperative losses were similar in all groups except the pneumonectomy group. Bronchospirometric data showed a slight shift of function to the opposite side in all categories.

Psychosomatic Problems in Postural Reeducation.

Wilfred Barlow, Lancet, (No. 6891), 659-664, Sept. 24, 1955.

The majority of so-called 'normal' people exhibit one or more postural defects. Postural training has not always been successful because of incorrect instruction and incorrect learning.

Postural adjustment or behavior is a homeostatic mechanism which is largely under voluntary control. Behavior and not structure largely determines faulty or good body mechanics. Many people have excessive muscle tension of which they are not aware; this maldistributed muscle tension causes faulty posture and eventually the chronic aches and pains typical of improper body alignment. To correct unnecessary and unbalanced tension, the person should be made aware of the postural deviation, to feel it, to see it, and thereby to learn to correct it.

The primary defect in postural disorders is usually in the region of the head and neck; most commonly a person carries his head in a backward and downward position. Correction of the head-neck relationship is a key to good posture.

A second goal should be a feeling of separation of joint surfaces rather than the idea of pulling them together. The patient should be taught to strive to lengthen the back and 'stand tall,' to lengthen the extremities, and to relax the shoulders so that the scapulae are not cramped and respiratory movements are free.

A third factor is the consideration of the pelvis as an integral part of the spine and not of the legs. Trunk flexion and extension should incorporate the pelvis with the vertebral column.

Behavior disturbs the mechanics of the back, and by instilling in the patient an awareness of his behavioral attitudes many back pains can be alleviated. An integration of intention is important to restore a balanced equilibrium to the body.

Acute Poliomyelitis in Infants Under One Year of Age: Epidemiological and Clinical Features.

Harold Abramson and Morris Greenberg, Pediatrics, 16:478-485, October 1955.

In order to compare the epidemiological and clinical features of poliomyelitis in infants under one year with those in children and adults, a study was made of all cases of poliomyelitis that occurred in New York City in 1949 and 1950. This revealed the following characteristics of the disease among infants in the first year of life:

Clinically recognizable poliomyelitis was of infrequent occurrence among infants under 1 year of age. It was even more infrequent among infants in the first 6 months of life. This is in marked contrast to the finding in the 1950 epidemic in Israel where one-third of all cases occurred in the first year of life, and one-tenth in infants in the first half-year of life. Male infants exhibited a greater susceptibility to the disease than females. Fatalities in this age group were high, particularly among the infants under 3 months, with some predominance of deaths in males.

Under 1 year of age, non-paralytic poliomyelitis was unusual, especially in the first 6 months of life. Paralytic forms of the disorder were dominant, spinal involvement being more common than bulbar. Case fatality occurred chiefly in bulbar forms of the disease, as in older children and adults. The fatality rate was higher than in older children and higher than in all ages combined.

The onset of poliomyelitis among infants under 1 year of age was variable. It was acute, with fever, or fever with nuchal spasm, or the triad of fever, nuchal spasm and spasm of the back muscles. Temperature at onset of illness averaged 98.3° F. with a low of 97.6°F. and a high of 102°F. Temperatures recorded subsequently during the day of onset of illness were from 99.9°F. to 105°F. The interval between onset of illness and first detection of paralysis averaged 5.5 days, with a spread from the day of onset to 25 days later. Paralysis of a single limb occurred more frequently than of two or more limbs, and the ratio of arm to leg paralysis was about 1 to 3.

Spinal fluid findings are discussed.

In this series, there were 92 infants under 1 year of age studied.

The rate of paralysis in the group was 90 per cent. That susceptible infants are more severely affected than older children is commonplace in all the acute communicable diseases. Fortunately most infants are protected by maternal antibodies. However, the infants whose mothers are not immune and who do not receive passive antibody, develop the fully manifest disease with more severe symptoms and higher mortality, as in other infectious diseases.

Analysis and Therapy of Cerebellar Ataxia and Asynergia.

Herman Kabat, ARCH. NEUROL. & PSYCHIAT., 74:375-382.

The present report deals with clinical observations on neuromuscular function in a series of patients, with disease or injury of the cerebellum or its pathways. The rhythmic stabilization test was found to be of clinical value in the diagnosis of cerebellar asynergia. The response to rhythmic stabilization varies with the severity of involvement. In patients with mild cerebellar disease, other tests, such as the heel-to-knee test, failed to show dysmetria or intention tremor, but rhythmic stabilization was definitely deficient. This test has also been of clinical value in elucidating masked cerebellar involvement, particularly in patients with corticospinal lesions where paralysis or spasticity may prevent the application of the usual cerebellar tests.

The deficiences in neuromuscular function as revealed by the rhythmic stabilization test appear to be basic to the understanding of asynergia. This leads to a discussion of the neurophysiological mechanisms of voluntary movement and then to an interesting explanation of the many signs of cerebellar disease.

Kabat then considers a number of specific therapeutic measures which have proved valuable in improving cerebellar ataxia. These include neuromuscular reeducation based upon training of voluntary isometric contraction and cocontraction, correction of muscle imbalances of antagonists, and development of endurance.

Opposing functions of the cerebellum and the corpus striatum are discussed and the paper ends on a note of speculation. While voluntary motion is initiated at the motor cortex, these two great regulatory mechanisms antagonistic to one another greatly influence and control the voluntary movement. Homeostatic equilibrium of these antagonistic "feedback" mechanisms leads to skilled coordinated volitional movement.

Placement of Rehabilitated Patients.

A. Ray Dawson and R. N. Anderson, J.A.M.A., 159:557-559, October 8, 1955.

This article represents a progress report on a joint undertaking by the Vocational Rehabilitation Service, Department of Education, Commonwealth of Virginia, and the McGuire Veterans Administration Hospital, Richmond, Virginia. A state vocational counselor was assigned to McGuire Hospital on a full-time basis, in order that vocational counseling and job placement services might be available to the veteran at the earliest possible time after injury or illness. The study was conducted over an 18-month period, from July 1951 to December 1952, during which time 400 cases were considered.

Early vocational counseling helped to combat lack of motivation in patients who were so overwhelmed by their original injury that any vocational adjustment seemed impossible. Some cases were rejected because of lack of motivation, or if rehabilitation was medically unfeasible. Major categories of patients were: neurological, psychiatric, tuberculous, paraplegic and poliomyelitic. Early rehabilitation efforts and vocational counseling helped to prevent frustration and dependency patterns from developing which may have caused blocks in the rehabilitation program. Of 224 cases accepted, 59 per cent are now employed. Before the services of a full-time counselor were available, few in these groups found suitable employment. Results were particularly outstanding with the psychiatric patients, including the psychotic. Of 75 considered, 40 were accepted for training and/or job placement; 33 are now employed at an average income considerably above the group average.

It should be emphasized that in dealing with the severely disabled patient, there must be close cooperation between vocational counseling, job placement and medical services. There must be good medical follow-through to the working situation, and medical counseling of both patient and employer after the patient is on the job. In addition, it was found that the earlier in the patient's disability that rehabilitation and vocational counseling were begun, the better were the therapeutic results.

Painful Non-Arthritic Disturbances of the Hand and Wrist.

Elam C. Toone and James Kawchak, VIRGINIA M. J., 82:441-443, October 1955.

There are many painful lesions affecting structures at or near joints which need to be distinguished from and treated differently than arthritis. Three of these painful nonarthritic conditions are discussed in this article.

DeQuervain's disease or stenosing tendovaginitis of the radial styloid results from thickening and stenosing of the tendon sheaths of the abductor pollicis longus and the extensor pollicis brevis. Occupations which place these tendons under stress are predisposing to the condition. Radiating pain and tenderness over the radial styloid process is usually constant and aggravated by making a fist and deviating the hand to the ulnar side. Surgery to excise the dorsal carpal ligament and the tendon sheath is usually necessary.

The carpal-tunnel syndrome is caused by compression of the transverse carpal ligament on the median nerve. Early symptoms are sensory changes of paresthesia and later hypalgesia and hypesthesia over the median nerve distribution in the hand. Sometimes there is later evidence of muscle weakness and atrophy and a positive Tinel's sign. If conservative treatment of heat and immobilization fail, sectioning of the transverse carpal ligament is beneficial.

The trigger-finger syndrome is caused by stenosing tendovaginitis of the flexor tendons of the thumb or little finger. Chronic trauma and excessive use are believed to be the cause. The symptoms are pain radiating up the arm, stiffness, flexion contracture of the involved fingers, weakness of grip, tenderness, and presence of a nodule over the constricted area. If conservative treatment fails, surgery to release the tendon sheath constriction is suggested.

None of these conditions responds to medication usually employed in treating arthritic lesions.

Some Aspects of Dermatology in Neurology.

Herman Beerman. AM. J. M. SCI., 230:441-464, October 1955.

The close association of cutaneous and nervous system abnormalities seems to be the keynote of this paper. This is not surprising when one recalls the common embryonic origin: the ectoderm. Accordingly, developmental errors may result in abnormalities in one or both of these ectodermal derivatives. In addition, the nervous system plays an important role in the intiation and control of certain cutaneous functions, sensation, secretion, temperature regulation, and others. Under abnormal circumstances, the nervous system may influence the course of a purely cutaneous disease.

In this paper the author discusses the role of the nervous system in normal cutaneous function and in disease, diseases of nerve structures in the skin, diseases of the skin with neurological manifestations, and diseases of the nervous system and skin (neurocutaneous syndromes). The fact is also mentioned that in many instances the occurrence of nervous system and cutaneous disorders simultaneously may be mere coincidence. Also, what appears to be coincidence in many instances is in reality too frequently dismissed as being without causal relationship. It is stressed throughout the paper that the skin is a tool of value in neurologic diagnosis.

An Assessment of the Value of Breathing Exercises in Chronic Bronchitis and Asthma.

R. S. McNeill and J. M. McKenzie, THORAX, 10:250-252, September 1955.

An attempt was made to assess the value of breathing exercises in chronic bronchitis and asthma using the Expiratory Flow Rate (E.F.R.) as a measure of the ventilating efficiency of the lungs before and after treatment. The authors felt the E.F.R. to be more valid than the more widely used Maximal Breathing Capacity (M.B.C.) for this group of subjects since the sustained maximal breathing in the latter test tends to increase bronchospasm. The E.F.R. method is described.

Twenty-three patients started on the program of breathing exercises and 17 per cent of these completed the course. Breathing exercises and instruction were given twice weekly by a physical therapist for a total of eight lessons. The patients were instructed to carry out the exercises twice daily at home. The exercises taught were those recommended by the Asthma Research Council (1949).

As shown by the E.F.R., 11 subjects improved and 6 deteriorated. The mean improvement for the group was 4 per cent; this was not a statistically significant figure. Furthermore, the 6 patients who did not complete the course of breathing exercises could fairly be considered to have derived no benefit from them.

A control group of 10 patients were given ultraviolet light irradiation. Two of this group failed to complete the course. Four patients deteriorated and 3 improved, and in one there was no change. The mean deterioration for the group was 2 per cent.

The figures involved in this analysis do not permit a statement to the effect that breathing exercises are of no value in asthma and bronchitis treatment; however, it was felt unlikely that any larger series would show appreciable and worthwhile benefit from this therapy.

Infantile Spastic Hemiplegia. IV. Birth Weights.

Philip N. Hood and Meyer A. Perlstein, PEDIATRICS, 16: 470-477, October 1955.

This paper reports on a study of the birth weights of 190 patients with congenital spastic hemiplegia. All persons in the group were seen by the authors during the past 10 years. It has been well known that both prematurity and heavy birth weights predispose to brain injury at birth. Data on birth weights was obtained in this series from hospital records and parental histories. Statistical analysis of these birth weights has led to the following conclusions.

The total of 190 patients with congenital hemiplegia had a mean birth weight of 6.4 pounds, significantly lower than the mean of normal infants by 0.7 of a pound. Moreover, there were a significantly greater number of birth weights under 5 pounds in this series as compared with normals.

There was no significant sex difference either between the means or in the incidence of premature or heavy birth weights in this series.

Right hemiplegia births were significantly heavier than left by 0.5 of a pound. Although the ratio of left to right was 1:1 in premature births and in weights between 5 and 8 pounds, the ratio was nearly 1:2 in weights above 8 pounds. It was suggested that preponderance of deliveries in which the presentation is 'left occiput anterior' might be responsible for the occurrence of more right than left hemiplegias in children of heavy birth weights.

The incidence of premature and heavy birth weights was randomly distributed between convulsive and nonconvulsive groups; a difference of 0.4 of a pound in favor of the convulsive group was not significant.

Birth weights in the educable and mental defective groups did not differ significantly.

The frequency distribution of the total group and of the subgroups studied showed distinctly bimodal curves.

The variance, or degree of dispersion of birthweights was greater in this series of infants than in normal infants.

Paraffin-Wax Baths in the Treatment of Rheumatoid Arthritis.

R. Harris and J. B. Millard, ANN. RHEUMAT. DIS., 14:278-282, September 1955.

Paraffin-wax baths have been extensively used as part of the physical treatment for patients with rheumatoid arthritis although a critical assessment of the value of this form of therapy has not been previously made. In an attempt to evaluate the progress of rheumatoid hands treated with paraffin, 71 cases were selected at random for study. The only drug taken by the patients was calcium aspirin and they received no other local treatment to the hands during the assessment period.

The subjects were divided into three groups: (a) no local treatment of the hands (23 cases); (b) paraffin-wax baths and packs five times a week for three weeks (25 subjects); (c) paraffin-wax baths and packs five times weekly for six weeks (23 patients).

A comparative assessment was carried out initially and weekly thereafter in each group for a six-week period. Included in the critical examination were tests for pain, swelling, tenderness, grip-strength, and dexterity. Also considered were

the duration of the disease, stage and functional grade of the disease (after Steinbrocker), erythrocyte sedimentation rate, local deformity of the hands and general treatment.

No difference was found between the three groups at three weeks, but at six weeks, the third group which had been treated continuously with wax was slightly better. A study of the patients who did improve did not indicate any method of selecting patients most likely to receive benefit from paraffin treatment.

Taking into consideration the difficulty of using 'objective' and 'subjective' tests for rheumatoid arthritis, the authors felt that any relief which did occur after wax baths was of short duration and that the paraffin bath is of little value in the treatment of the disease.

Local Cold Injury.

J. C. Shafer and A. W. Thompson, ARCH. DERMAT., 72:335-348; October 1955.

This paper summarizes the late clinical picture in 54 patients with a diagnosis of sequelae following cold injury of the trench foot or frostbite types. The classification, incidence, and contributing factors relating to cold injury are discussed. Various concepts of the mechanism of cold injury are briefly reviewed. Several studies are mentioned, including those of the Cold Injury Research Team. The symptoms and signs of cold injury are tabulated and briefly described. These include pain, increased sweating, increased reactivity to cold, numbness and tingling, dermatitis, swelling, and color changes. Orthopedic abnormalities were noted in many of these patients. It was noted that laboratory evaluation gave little information toward diagnosis.

The general management of these patients is summarized to show various treatment requirements. These included specific drugs to relieve various manifestations, orthopedic treatment to alleviate certain symptoms, physical therapy (whirlpool and various types of active and passive exercise), active psychiatric management, and sympathectomy. General measures were adequate nutrition, rest, and an avoidance of cold exposure. There are some interesting comments on the pathophysiologic sequence in cold injury and on the results of treatment. The paper ends with a suggestion that a more critical evaluation of the neurologic involvement in such patients would be of importance in further investigations of late cold injury syndromes.

Abstractors for February

We are indebted to the following for assistance in preparing the abstracts for this issue:

Jean Cuthbertson Margot Trimble
Judith Kurtz

Book Reviews . . . . .

Cerebral Vascular Diseases. *Transactions of a Conference Held Under the Auspices of the American Heart Association in Princeton, N. J., January 24-26, 1954. Edited by Irving S. Wright, M.D. and Hugh Luckey, M. D., Cloth. Price $5.50 Pp. 167. Grune & Stratton, Inc., New York, 1955.*

This monograph is a transcript of the transactions of a conference on vascular diseases of the brain in which participated some of the country's most productive investigators in the field of vascular diseases. The list of the members of the conference is too long to reproduce, but is replete with the names of well accepted authorities. Each has contributed a chapter on various phases of the subject all the way from embryology through chemistry, pathology, etiology, clinical aspects and even socio-economic conditions relevant to cerebrovascular diseases.

The recent material in the field is thoroughly presented, and as such, this book represents an up-to-date reference work. The editor has done an excellent job in setting up the format. The discussions are reported verbatim which sometimes are more beneficial than the original paper itself, because they point up the problems and differences of opinion. Through this publication the original purpose of the conference will be multiplied many times because it makes readily available to physicians current concepts of this most important group of diseases.

The American Heart Association and the organizers of this conference deserve our thanks and congratulations for a job well done. This monograph merits wide circulation amongst all practicing physicians.

Medical Care for Tomorrow. *By Michael M. Davis, Ph.D., Chairman of the Executive Committee of the Committee for the Nation's Health. Cloth. Price $6.50. Pp. 497. Harper & Brothers, New York, 1955.*

Medicine is a service to humanity. As such can it be discussed as a national economic problem? Modern medicine is becoming farther and farther out of the reach of Mr. J. Q. Public's pocket-book. "For individuals and families under the fee-for-service system of payment, the 'costs of medical care' give rise to two major problems. One is the high cost of illness, bringing unpredictable and often destructive burdens upon families. . . . The other problem is lack of care, or delay in obtaining care — often bringing high ultimate costs in suffering, disability, and expense in hospitalization. This is the hidden problem. It is not hidden however to those who would see it." It is from this basis Michael M. Davis, Ph.D., analyzes what he feels is a growing trend toward a national health insurance program, one which assures more equitable distribution of health services; promises recompense to physicians equal to if not greater than the fee-for-service method provides; fosters closer relationship of patient with physician of his choosing; and, among other advantages, encourages earlier preventive care.

The author writes from a long and broad experience in administration of medical care services; as director, as teacher, and as consultant on many programs both private and government sponsored. At one time director of the Boston Dispensary, he later headed graduate studies in Hospital Administration at the University of Chicago. During the Roosevelt Administration, he served as Director of Research studies under the Julius Rosenwald Fund, one of several such studies supplementing the National Health Survey in 1936 and later contributing to the National Health Conference in 1938. Consultant on Health Services for Roosevelt's Committee on Economic Security, Dr. Davis has since been appointed by Eisenhower to his present post on the Committee for the Nation's Health. A prolific writer on the subject, he has contributed innumerable articles on public health services, has edited *Medical Care Magazine*, and has a dozen books to his credit, among them are *Paying Your Medical Bills* (1931) and *America Organizes Medicine* (1941).

His latest work, which was an

ambitious undertaking, contains an excellent summarization of the social and economic situation as related to medical care in this country today, with comparisons of yesteryear. This introduces part I which goes on to differentiate between "need" and "demand" for care and what constitutes good care. With increasing medical knowledge has come the need for specialization and with it a consequent rise in costs of medical education as well as medical treatment and a deplorable loss of the relationship of patient to the "family physician."

Part II encompasses the "Evolution of Organizations." There is a chapter devoted to hospital organization and financing, followed by a discussion of clinics and group medical practice today. He writes with understanding of "Professional Versus Financial Incentives," then reviews the current scope of Public Health Service and the use of tax moneys.

Part III traces the growth of voluntary health insurance programs, such as Blue Cross and Blue Shield, to meet the increasing demands for less costly medical care. The part played in this growth by union and management in industry and business is shown, as are the efforts of organized medicine. The political "shenanigans" of the AMA during the great "panic" over "socialized medicine" makes fascinating reading! There is also an excellent summary of legislative action between 1911 and 1952.

Throughout the text, the advantages and disadvantages of each plan or proposal are outlined briefly, often of necessity giving a cursory glance, but always with adequate reference to sources of more thorough discussion. At the same time, the author does not lose sight of his goal which comprises the fourth and final portion of the book. Admitting his own changed attitude, i.e., from one of reluctance to pursue a compulsory health program to belief in its inevitable adoption, Dr. Davis presents a cautious, sensitive and gradual transition from the present inadequate system of voluntary health insurance and government subsidy of medical education and hospitals toward a more comprehensive program.

Many questions are still left unanswered and others are raised by this provocative study. It is to the author's credit that he has given such a comprehensive analysis in a direct, simple and concise manner, not without bias, but at least open-minded to the many facets of each problem and the foibles of human nature. Statistical studies are referred to, but few graphs or charts appear in the text. In addition to an index, there is a generous bibliography of general and topical references, as well as the detailed list of specific references made in the text. Three other appendices include: "Notes on tables in chapter twenty" ("How much medical care can we afford?"); "Dentistry of the Health Program"; and "Home Nursing."

". . . Intended for men and women who have some practical concern with medical care and its costs, and for that smaller but important body of physicians, dentists, nurses, administrators, and others who are engaged in practicing, managing, studying or in determining private or public policies in this field . . ." *Medical Care for Tomorrow* should be brought to the attention of one and all. However, its length will discourage some, its outspokenness antagonize others. Placed in the framework of economics: we who are "producers" or may be the "consumers" of medical care should give recent and pending legislation our thought. Dr. Davis has placed the challenge before us, and whatever the direction that is taken in future medical care, the program will require planning, study, and education, not only by those who serve but also by those who receive.

Basic Physiology of Exercise. *By Ferd John Lipovetz, State College, LaCrosse, Wisconsin. Cloth; Price $5.00. Pp. 170; 66 illus. Burgess Publishing Company, Minneapolis, Minn., 1954.*

The first paragraph of the preface states, in the author's own words, that: "This new text is intended, first, for Universities and Colleges offering both undergraduate and graduate courses in Physiology of Exercise; second, for Schools of Physical Therapy, and third, for Physical Education Directors and Athletic Coaches and Health workers needing new ideas and stimulating thought. Schools of Nursing and Medicine will also find much of the material of practical service." Although the author has intended this text to be of use in schools of physical therapy, the book is definitely designed to appeal to those whose primary concern is the function of the healthy body in group activity. As a text or reference for physical therapy students or practising therapists, it would not be sufficiently comprehensive in the general physiology, the physiological chemistry, or the neurophysiology of muscle contraction. The two chapters devoted to basic theories of muscle contraction explain some phases of the subject with numerous chemical formulas, equations, and illustrations while some phases are slighted or totally lacking. On the whole the terminology is pseudo-medical and the classifications of exercise are not those currently used in the field of therapeutic exercise.

The general plan of the book has merit. There are two sections. Section-A, The Phenomenon of Muscular Action, Control, and Movement; and Section-B, Exercise in Physical Education and Athletics. The first section of 65 pages runs through the basic physiological phenomena pertaining to muscle action and movement. The second section of 100 pages states the objectives for physical education, the methods of approach, the effects that exercise has on the body, the tests that have value as an index to the extent of the described effects, and the essentials of methodology in training an athlete.

The text is laboratory manual size, i.e., 8½" by 11¼", securely bound, has a hard cover, the print is clear, and the diagrams and illustrations are numerous. Each chapter is concluded with a complete set of study questions.

Ethics — With Special Application to the Medical and Nursing Profession. *By Joseph B. McAllister, S.T.B., Ph.D., Associate Professor Of Philosophy, The Catholic University of America, Washington, D.C. Second Edition. Cloth. Price $4.00. Pp. 423. W.B. Saunders Company, Philadelphia, 1955.*

This text of *Ethics* has been revised with a special interest in young students who have not had any previous work in philosophy and the book is planned as a self contained unit but not as a complete course in philosophy. The book is divided into two parts: Part I — General Ethics, and Part II — Special Ethics. It also includes Appendix I, A Code for Professional Nurses; Appendix II, Code of Ethical and Religious Directives for Catholic Hospitals; and a lengthy Bibliography. Sections of Part II are entitled: Ethics Regarding Self, Ethics Regarding

Other Persons, Ethics Regarding God, and Ethics Regarding the Family and the State. Many chapters of the book are concluded with a summary which adds to its value as a textbook. A list of "Readings" follows each chapter.

In the introduction the author states "Ethics as a division of philosophy, is sometimes called the philosophy of human conduct or moral philosophy. . . . By definition ethics is the philosophical science of human acts from the point of view of the order they should have regarding one another and man's ultimate destiny, which they ought to help him achieve." He differentiates between "a code of ethics" and the science of ethics which he considers is a part of philosophy. In his opinion "ethics must not be confused with the art of conduct. Ethics aims to instruct reason, so that it can make correct judgments about the morality of human acts. Its business is to supply principles for man's moral guidance." Part II, Special Ethics, is the application of the principles and doctrine of General Ethics to specific problems and situations experienced by the nursing profession. There is little reference to ethics as it relates to the medical profession.

It is evident that this text is intended for instruction to nurses and physicians of the Catholic faith. However, all members of the medical and its auxiliary professions, regardless of their religion, will agree with this author on the necessity of good moral standards in the practice of their profession.

Man in a Cold Environment. Physiological and Pathological Effects of Exposure to Low Temperatures. *By Alan C. Burton, Ph.D., Professor of Biophysics, University of Western Ontario; and Otto G. Edholm, M.B., B.S., Head of Division of Human Physiology, National Institute for Medical Research, Medical Research Council, England (formerly Professor of Physiology, University of Western Ontario). Cloth; price $6.75. Pp. 273; 75 illus. The Williams and Wilkins Co., Baltimore; Edward Arnold (Publishers) Ltd., London, 1955.*

The Defense Research Board of Canada commissioned the preparation of the manuscript of this book after World War II when it was feared that much wartime research on the effects of low temperatures on man would be lost, if someone who had been connected with the work did not bring it up to date as far as possible and publish it in a more available form. Both authors are recognized for their contributions in research on this subject.

The book is a compilation and evaluation of past and current research in the physiological and pathological effects of exposure of living tissue and organisms to low temperatures, with emphasis upon the general principles as related to man rather than detailed treatment of any special cases. It is well illustrated by graphs, diagrams, and charts from the manuscripts of the 382 author scientists whose studies it includes. It may serve as both reference and text for the student of physiology and pathology. The scientists in engineering, who are solving some of the problems of enabling man to survive and function efficiently in adverse environments, will find it a valuable reference book. In each of the 13 chapters there is interesting information for the layman concerned only in knowing about the problems, solved and unsolved, of the homeotherms in their thermal emancipation.

There are four divisions into which the book falls. In the first the physical and the physiological problems in maintenance of a thermal steady state are discussed. The authors emphasize that it is important to recognize there are gradients of temperature from the deep tissues to the skin, and that homeothermy demands that when body temperature changes adjustments be made in heat loss and/or heat production to restore it to a normal level.

It is pointed out that physiological temperature regulation, its mechanisms and its limitations, must be understood by the scientists to develop the devices of clothing, shelter, and auxiliary heat that make it possible for man to extend his conquest of cold and high altitude environment.

The studies of the ways in which the body normally loses various amounts of heat; of the thermal insulation of the different tissues of the body; of the thermal insulation of dead air space; and as achieved in fabrics of the importance of clothing design as related to thermal control, and of the effects of wind, movement of the body, moisture, and the vapor permeability of fabrics on a known factor of clothing insulation, are presented and discussed in this section.

In the second section the studies of the ways of animals in meeting the problem of maintaining a thermal steady state are discussed, and then in some detail are described the physiological mechanisms by which man maintains the thermal steady state. Discussed are the changes in man's metabolism and circulation in response to cold, his nutritional requirements in a cold environment, and the mechanisms of and factors effecting shivering and thermal muscle tone. It is the opinion of the authors that there is positive evidence that acclimatization to cold can under certain conditions be demonstrated in man, as it has been in animals, but that it will require much work to evaluate these conditions and to lay down criteria.

In the third section the authors describe the consequences that result if heat balance is not maintained. Methods of resuscitation of the person suffering from chronic or from acute general hypothermia are evaluated. Information available from the research as to the causes of local hypothermia or cold injury — trench-foot, immersion-foot, and frostbite — the tissue changes that occur, and the treatment of cold injury are presented. Present day clinical uses of hypothermia are briefly summarized.

Throughout the book the authors have suggested the need for further research in all of the studies presented and dedicate the final chapter to this plea. They emphasize the need for more scientific studies of the peoples living in cold environments, of the acclimatization of man, of the thermal insulation of tissue and of clothing, of the metabolic problems of man in response to cold, of biochemical changes of tissue in hypothermia, of the physiological problems in order to establish more successful clinical use of hypothermia, and of the problems of cold injury and of its treatment both of which are virtually unsolved.

The authors have fulfilled a need for one book to consolidate and evaluate the research on the effects of low temperatures on man, and have effectively presented a challenge for more extensive research to solve the problems of maintaining a thermal steady state in conquest of cold environment.

The reviews here published have been prepared by competent authorities and do not represent the opinions of the American Physical Therapy Association.

Our Book Reviewers For February

Rheta C. Adams, Associate in Physical Therapy, Research Assistant in Physiology, University of Pennsylvania, Philadelphia.

Gertrude Beard, Director of Physical Therapy, Bethany Hospital, Kansas City, Kansas.

Mary Ellen Sacksteder, Capt., AMSC, United States Army Hospital, Fort Campbell, Kentucky.

Irving C. Sherman, M.D., Clinical Professor and Chief of Division of Neurology, Chicago Medical School, Chicago.

Julianne Steffens, Senior Physical Therapist, State Veterans' Home and Hospital, Rocky Hill, Connecticut.

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American Cancer Society

Index to Current Literature

(continued from page 121)

Solitary Vertebral Plasmocytoma Causing Paraplegia. Satisfactory Results of Roentgen Treatment on Paraplegia and Serum Globulin. Lars Hagelstam, Acta chir. Scandinav., 109: 384-394, Fasc. 5, 1955

Rheumatoid Arthritis in the Aged. Jack Zuckner, Missouri Med., 52: 788-797, October 1955

Oral Hydrocortisone Therapy in Rheumatoid Arthritis. E. W. Boland, Ann. Rheumat. Dis., 14: 232-237, September 1955

Chronic Arthritis After Recurrent Rheumatic Fever. A. E. Thomas, Ann. Rheumat. Dis., 14: 259-266, September 1955

Rheumatoid Arthritis and Plasmacytomatosis. T. Galli and E. Chiti, Ann. Rheumat. Dis., 14: 271-277, September 1955

Effect of Cortisone and Certain Other Steroids on the Peripheral Vasculature in Arthritis. A. Woodmansey and J. W. Beattie, Ann. Rheumat. Dis., 14: 293-297, September 1955

Rehabilitation of Patient with Rheumatoid Arthritis. Robert L. Preston, New York State J. Me'., 55: 2887-2896, Oct. 15, 1955

Amputee Course

A course for physical therapists, "Prosthetic Rehabilitation of the Above-Knee Amputee" will be offered on March 8 to 16, 1956. First priority on admission will be given to physical therapists from the metropolitan New York Area. The course consists of lectures, demonstrations, laboratory practice, and supervised clinical practice and is jointly sponsored by the College of Engineering and the Postgraduate Medical School of New York University.

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Postgraduate Medical School
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What's New . . . . . .

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New items which may be of interest to physical therapists will be mentioned in these pages each month. The accompanying explanations are made by the manufacturers and have not been investigated by the *Physical Therapy Review*.

50. Bat Bak

This new game, combining the best features of table tennis and handball, has special values for therapy. It provides a thorough physical workout whether played alone or in competition; turns the smallest space into a gymnasium; and is equally enjoyed by wheel chair and ambulatory patients as well as skilled players. Played alone Bat Bak is so fascinating that the beginner is encouraged to develop skills and confidence for competition. It has been tested by specialists in physical education and is in use in many institutions, YMCA's, and the Armed Services. Bat Bak Inc.

60. Hand-operated Tricycle

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Classified WANT-ADS

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WANTED: Qualified physical therapist for staff position in a 650-bed University teaching hospital including 30-bed rehabilitation center. Two-week vacation, six paid holidays, sick leave benefits. Attractive starting salary. Experience not necessary. Write Harold N. New, M.D., Creighton Memorial St. Joseph's Hospital, Omaha, Nebraska.

PHYSICAL THERAPIST: In Hospital-School for rehabilitation of children with orthopedic handicaps. Complete interesting program. Good salary, merit increases. Annual paid vacation, sick leave, excellent retirement plan. Write Vera E. Dennis, Director of Physical Therapy, Illinois Children's Hospital-School, 2551 N. Clark, Chicago 14, Ill.

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PHYSICAL THERAPIST: Attractive salary with regular increases, 40-hour week, to work in a large county hospital. Liberal retirement, paid sick leave and vacations. Automatic annual salary increases. Must be citizen of U. S. and have completed an approved course in physical therapy. Contact: Wayne County Civil Service Commission, 628 City-County Building, Detroit 26, Michigan.

WORK IN SOUTHERN CALIFORNIA: Physical therapists needed to staff new Rehabilitation Service at Rancho Los Amigos. All aspects of rehabilitation of all age levels including post-acute and convalescent care of respirator patients, general medical, and orthopedic disabilities and all aspects of bracing and prosthetics. In-service training program under direction of physical therapy instructor. Five-day 40-hr. week, holidays, sick leave, vacation privileges, retirement benefits with Civil Service rights. New building and most modern equipment available. Vacancies include staff therapists, senior therapists, and instructors. Quarters available, laundry furnished. Good beginning salary, annual increases. Write: Personnel Director, Rancho Los Amigos, Hondo, California.

QUALIFIED PHYSICAL THERAPIST for large cerebral palsy outpatient center with total program; 5-day, 35-hour week. Uniforms and laundry provided. Good salary. Vacations, sick leave, holidays. Write Clinic Director, United Cerebral Palsy Assn., 380 Washington Ave., Roosevelt, N. Y.

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IMMEDIATE OPENING, qualified senior physical therapist for children's 50-bed convalescent home. Salary dependent qualifications and experience. Annual paid vacation, sick leave, retirement plan. Room & board optional. Headquarters Florence, S. C.—population 22,513 (1950 census). Apply R. W. Ball, M.D., Director, Crippled Children's Division, S. C. State Board of Health, Columbia, S. C.

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Classified WANT-ADS

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PHYSICAL THERAPIST: EXPERIENCED, qualified; to supervise new department in 129-bed general hospital. Salary and maintenance open. Excellent opportunity. Address replies to Director, North Adams Hospital, North Adams, Mass.

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PHYSICAL THERAPIST, staff position, 600-bed general hospital. Vacation, sick leave and social security benefits. Apply Personnel Director, Harper Hospital, Detroit, Michigan.

GROWING DEPARTMENT in new 250-bed general hospital needs qualified female physical therapist now. Very well equipped department has been open two years. Wide variety of cases, 40% hospital patients, 60% outpatients. Forty-hour week, good salary. Lovely Colorado college town, near Denver and mountains. Reply: Miss Myra Garhart, Physical Therapy Department. Weld County General Hospital, Greeley, Colorado.

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POSITIONS AVAILABLE for qualified physical therapists for active rehabilitation department in modern 500-bed, chronic disease hospital. Salary open. Four weeks' vacation. Sick benefits. Lunches. Apply Superintendent, St. Barnabas Hospital, New York 57, N. Y.

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